

Factors Causing Stress Among the Employees in the Apparel Factories in Sri Lanka, Its Impact
and Possible Interventions

By

Indrajith Jayaratne

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Abstract

This participatory action research (PAR) project explored the factors causing stress in the apparel industry of Sri Lanka, its impact and the coping methodologies adopted by the workers. The PAR team was made of 25 voluntary workers from the apparel industry of Sri Lanka. During the group discussions held, the possible causes for stress, coping strategies used and implications of stress on job satisfaction and intention to leave were discussed, debated and critiqued. The research used a modified version of the Occupational Stress Indicator (Cooper *et al.*, 1998) and Pressure Management Indicator (PMI) developed by Williams and Cooper(1996) to collect stress related information from 155 workers from different apparel factories. Financial difficulties, abusive supervision and workplace incivility, workload were identified as the main factors causing stress in the apparel industry. The researcher's role as an insider as well as an outsider to the community and shifting positions from an outside consultant/researcher to an active role were important aspects of the data interpretation. The importance attributed to the participants lived experience, focus on social justice and emancipation were inherent characteristics of PAR. Complementary behavior and religious support were the categories of most commonly used coping strategies by the factory workers. The relationship with others and the recognition were important factors predicting the job satisfaction. Only the 'workload' factor could predict intention to leave among apparel factory workers. The implications of the research suggest the importance in the culture and local context on causes and coping strategies on stress. It added abusive supervision and workplace incivility as a key factor causing stress. The impact of the culture was evident as religious support and complementary behavior were the main categories of coping strategies.

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Factors Causing Stress Among the Employees in the Apparel Factories in Sri Lanka, Its Impact
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ABSTRACT	2
ACKNOWLEDGEMENT	3
FACTORS CAUSING STRESS AMONG THE EMPLOYEES IN THE APPAREL FACTORIES IN SRI LANKA, ITS IMPACT AND POSSIBLE INTERVENTIONS.....	4
.....CHAPTER 1 INTRODUCTION	
.....	8
1.1 BACKGROUND TO THE RESEARCH	8
1.2 AIM OF THE RESEARCH.....	11
1.3 OVERVIEW OF KEY LITERATURE.....	12
1.4 ROLE OF THE PRACTITIONER	16
1.5 CORE CONCEPTS AND DEFINITIONS	17
1.6 THE PROBLEM	18
1.7 RESEARCH QUESTIONS	19
1.8 METHODOLOGY.....	20
1.9 THESIS STRUCTURE	22
1.10 CHAPTER SUMMARY	23
.....CHAPTER 2 LITERATURE REVIEW	
.....	24
2.1 OVERVIEW OF THE RESEARCH PROBLEM	24
2.2 WHAT IS STRESS.....	28
2.3 STRESS MODELS	30
2.3.1 <i>Person environment fit model</i>	30
2.3.2 <i>General systems model of stress</i>	31
2.3.3 <i>Cybernetic theory of organizational stress</i>	32

2.3.4	<i>Transactional model of stress</i>	32
2.3.5	<i>Karasek's demand/control model</i>	33
2.4	RESEARCH SUPPORT FOR DEMAND/CONTROL MODEL	34
2.5	EXPANSION OF KARASEK (1979) MODEL.....	37
2.6	WORK STRESSORS	39
2.6.1	<i>Work role stressors</i>	39
2.6.2	<i>Workload</i>	40
2.6.3	<i>Situational constraints</i>	40
2.6.4	<i>Job control</i>	41
2.6.5	<i>Social characteristics of the work place</i>	41
2.6.6	<i>Career-related concerns</i>	42
2.6.7	<i>Job conditions</i>	42
2.7	FACTORS CAUSING STRESS IN APPAREL INDUSTRY	43
2.8	INDIVIDUAL DIFFERENCES IN OCCUPATIONAL STRESS	44
2.9	COPING	46
2.10	THEORETICAL FRAMEWORK	47
.....CHAPTER 3 METHODOLOGY		
.....		55
3.1	ONTOLOGY	55
3.2	EPISTEMOLOGY	56
3.3	METHODOLOGICAL ISSUES IN OCCUPATIONAL STRESS RESEARCH.....	62
3.4	ACTION RESEARCH.....	63
3.4.1	<i>What is action research</i>	63
3.4.2	<i>Objectives of action research</i>	64
3.4.3	<i>Positionality in action research</i>	64
3.4.4	<i>Use of AR in stress and coping research</i>	65
3.5	WHAT IS PAR	67
3.6	WHY PAR.....	69

3.7	THE PAR PROCESS	70
3.7.1	<i>Cycle 1</i>	72
3.7.2	<i>Cycle 2</i>	72
3.7.3	<i>Cycle 3</i>	73
3.7.4	<i>Cycle 4</i>	73
3.8	FORMS OF PARTICIPATION BY THE TEAM MEMBERS IN PAR	73
3.9	POSITIONALITY IN ACTION RESEARCH	75
3.10	USING MIXED METHODS FOR BROADER UNDERSTANDING	77
3.11	METHOD SAMPLE AND PROCEDURE	83
3.11.1	<i>Participants</i>	83
3.11.2	<i>Measures</i>	84
..... CHAPTER 4 RESULTS		
.....		88
4.1	CYCLE 1	88
4.2	CYCLE 2	93
4.2.1	<i>Sample</i>	94
4.2.2	<i>Biographical Data of the Apparel employees</i>	95
4.2.3	<i>Job and Career Demographics</i>	97
4.2.4	<i>Behavioural patterns (personality type)</i>	100
4.2.5	<i>Job satisfaction</i>	102
4.2.6	<i>Withdrawal Behaviours</i>	109
4.2.7	<i>Coping</i>	113
4.2.8	<i>Sources of pressure</i>	122
4.2.9	<i>Model to predict Job satisfaction</i>	135
4.2.10	<i>Model for Intention to leave</i>	137
4.2.11	<i>Action and Change</i>	139
4.3	CYCLE 3	142
4.4	CYCLE 4	145

.....	CHAPTER 5 DISCUSSION
.....	147
5.1 AN OVERVIEW OF THE SIGNIFICANT FINDINGS OF THE STUDY	147
5.2 FINDINGS IN THE LIGHT OF EXISTING RESEARCH STUDIES	149
5.3 LIMITATIONS OF THE STUDY.....	156
5.4 IMPLICATIONS OF THE STUDY FOR PROFESSIONAL PRACTICE OR APPLIED SETTINGS.....	157
5.5 RECOMMENDATIONS FOR FURTHER RESEARCH	159
.....	CHAPTER 6 REFLECTION
.....	160
6.1 THE ENTRY PROCESS AND CREATING PARTICIPATORY STRUCTURES.....	161
6.2 PARTICIPATION, REFLECTING ON THE FINDINGS AND INVESTIGATING	165
6.3 ACTION AND CHANGE	171
6.4 LEARNING FOR MYSELF.....	174
6.5 LEARNING FOR OTHERS	177
6.6 ETHICAL CONSIDERATION	178
.....	CHAPTER 7 CONCLUSION
.....	179
REFERENCES	182
APPENDIX 1 QUESTIONNAIRE ON STRESS	201

Chapter 1 Introduction

This chapter begins with the background for the research. It then proceed to provide the aims of the research and brief overview of important literature. The chapter also covers the role of the researcher, the management problem leading to development of research questions, then a brief description of the problems addressed by the research and the methodology the research will employ. Finally, it will provide the structure of the thesis.

1.1 Background to the research

Work related stress has taken a heavy toll on individuals' lives (Watts and Cooper, 1998). Stress is manifest in many forms such as negative physical and mental health and alcohol addiction. Its impact goes beyond the individual and affects family life and relationships with others. Businesses get affected by absenteeism, lower performance, staff turnover etc. Depending on the nature of the job, some jobs are more stressful than others. Some critical occupations such as police officers, firefighters and nurses are well known for their stressful nature (Meadows et al., 2011). The apparel industry is one such industry where work conditions make it stressful for the workers. The problem addressed by this exploratory research is 'What factors cause stress among the employees in apparel factories in Sri Lanka, their impact and possible interventions?'

Factory workers in production lines with little or no control over their work with tight deadlines are affected by stress to a high level. Most workers in apparel factories are involved in low skilled jobs that are inflexible with little job control (Hsiao and Barak, 2014). Situations where workers experience lack of control are likely to lead to work related stress (Michie, 2002). Due to tough deadlines from the buyers, factory workers are constantly put under pressure to meet

these deadlines. Time limited events such as work deadlines are identified as factors causing work stress (Michie,2002). In the case of apparel industries issues such as job inflexibility, tight deadlines and repetitive working action lead to the industry being widely criticized for its working conditions. Ho, Powell and Volpp (1996) noted that the industry is associated with long working hours, abusive supervisory behaviour and poor working conditions. Emmelhainz and Adams (1999) noted the presence of such sweatshop conditions in many countries and factories. Consequently, prevailing conditions and work demands in the apparel industry satisfy the prerequisites for a stressful employment.

Sri Lanka is a country where the apparel industry has its own distinct characteristics. The apparel factory workers form a community with shared work-life, social and economic characteristics. Consequently, general theories relating to stress are not as applicable as they may be elsewhere, without giving due consideration to the local context. Even in the case of Western society, theories on work stress have shown differences based on context (Calnan, Wainwright, and Almond, 2000). The issue of the prevailing work culture provides an opportunity to build a point of difference paying attention to the local context. An important objective of the study is to assist a community that is subjected to oppression and marginalisation. An intention is to act on the unequal power relations and the injustices created by the existing power structures. With emancipatory objectives, a participatory action research (PAR) methodology, with participation of the local community, was adopted in order to understand the sources of stress and their impact on the coping strategies used by workers

The apparel industry of Sri Lanka contributes considerably towards the GDP of the country. The industry is spread throughout the country. The factories are primarily located in free trade zones (FTZ) established by the government of Sri Lanka (GOSL) with the intention of bringing

investment of the country. The apparel industry of Sri Lanka employs more than 340,000 individuals (Sivananthiran, 2009), while more than 87% of these are women (Sivananthiran, 2009). Most of the individuals working in apparel factories are from rural villages of the country. Workers have a low level of education and mainly are from financially troubled families. The industry gradually evolved in Sri Lanka from the 1970s. As the employees are from rural villages they tend to stay at places closer to the factories and FTZs. This gradually built a community of its own based on the unique characteristics of the apparel industry. The members of the community hold a common identity. Any research done on the apparel industry should take the perspective of the community members and the context into consideration. Taking action to alleviate stress among apparel factory workers requires the support of the factory management and owners. Therefore, understanding their perspective and obtaining support is an important aspect of conducting an action research.

Most of the research on stress has been done based on an interactional framework. That is to say, these studies identify the possible stimuli, categorize them, find the relationship between different categories or stimulate and responses. In some cases, the moderating effect of individual specific characteristics, organisational characteristics or job specific characteristics are studied. However, the studies based on purely interactional perspective may not enable a full understanding of the stress process (Lazarus, 1990).

Only a limited number of studies have been conducted on the apparel industry. The study done by Steinisch *et al.* (2013) on stress experienced by factory workers in the Bangladesh garment industry suffers from many drawbacks. While limiting the study to a single factory the study assumes the stress issues experienced are primarily due to the mismatch between the work performed and the salary. Consequently, an effort reward imbalance (ERI) questionnaire has

been used in the study. ERI is an instrument prepared with the assumption that work-related stress is a result of the imbalance between efforts and rewards (Siegrist *et al.*, 2004).

A study was done on the stress among the apparel industry workers in Sri Lanka by Fernando *et al.* (2010). Unlike Steinisch *et al.* (2013), the study had used a sample that consist of 50 employees from the apparel industry that were from 10 different factories. However, the study lacked sufficient depth in the areas of literature review and analysis. The study made use of correlation to identify any existing relationship among the Job Involvement, Job Ambiguity, Culture, Salary and the Work Environment. The limited findings of Fernando *et al.*'s (2010) study failed to add to the understanding of stress in apparel factories. In a study of intention to leave conducted by Dulanji and Hettiarachchi (2016) involving apparel factory workers in Sri Lanka it was found that salary and supervisory support were two key factors affecting an employee's intention to leave the job. The focus of their study was intention to leave the job and stress was a contributing factor. However, the limited research into stress and coping in the apparel industry in Sri Lanka has failed to provide robust findings or to give voice to the issues faced by workers.

1.2 Aim of the research

The present study aims to address the existing gap in actionable workplace knowledge where a full study of the factors causing stress among apparel employees in Sri Lanka has not been studied. The study extends Steinisch *et al.* (2013) and adds sources not limited to misfit of efforts and rewards. Special attention is paid to sweatshop conditions such as abusive supervision and workplace incivility. Further, the research takes a holistic approach to stress by covering additional areas of stress impact and possible interventions. The study considers the impact of individual differences on selecting coping strategies and introduces religious support as a key

strategy used by factory workers. It further studies the impact of stress on intention to leave and job satisfaction. The model of stress at work by Michie (2002) and Murphy (1995) is considered as a base model to expand on in the present study.

The research will use Participatory Action Research (PAR) as the methodology. With this approach the understanding of the participants will increase with each cycle. The participants will also benefit by developing research skills, critical thinking and ability to resolve similar problems on their own in future. While a study of this scale is not expected to alleviate the issues of stress in the apparel industry as a whole, the action taken during each cycle is expected to mitigate the impact of stress in each local workplace while having a catalytic effect that will lead to further action to mitigate the impact of stress among apparel factory workers.

1.3 Overview of key literature

There are many sources of stress and categorization is an important aspect on its understanding. The sources of pressure scale of the Occupational Stress Indicator (OSI) (Cooper *et al.*, 1988) segmented possible sources of stress into six segments: factors intrinsic to the job, the managerial role, relationships with others, career and achievement, organizational structure and climate and the home/ work interface. A similar classification is observed in Michie (2002) and Murphy (1995) who described workplace stress under five categories. They are: intrinsic to job role or factors unique to the job, role within the organization, career development, interpersonal work relationships and organizational structure/climate.

The factors intrinsic to the job are the sources of stress that result due to the very nature of the job and are inherent to it. They include long or extensive working hours, work overload, toxic work environments and time pressure (Colligan and Higgins, 2006; Michie, 2002). The apparel

industry workers, and the machine operators in particular, are required to work very fast forcing them to expend a lot of physical effort. Further, due to the pressure of deadlines, they are expected to work excessive and inconvenient hours (Mahmud, Mahbubur and Nafis, 2011). The deadline pressures from clients, changes in garment style that require additional time for the adaptation to the new style and increased competition has resulted in time pressure. The frequent changes of style are a result of the shift of some production factories from mass manufacturing to the production of limited quantities of a given style (Bailey, 1993). This shift increases time pressure. The complete production cycle that involves many tasks from the design to delivery had shortened. These changes to industry are likely to have resulted in time pressure and role ambiguity that may act as sources of stress.

The work in the apparel production lines is repetitive (Hsiao and Barak, 2014; Cooper and Payne, 1988) and dehumanizing. The machine operators working in the production lines have little job control. The lack of job control is a known cause for work stress (Michie, 2002). These factors contribute to a toxic work environment.

Toxic work environments are known for relentless demands, ruthlessness and extreme pressure (Macklem, 2005), conditions that are highly associated with workplace stress. Most of the workers in apparel factories are involved in low skilled jobs that are inflexible with little job control (Hsiao and Barak, 2014). Consequently, extensive working hours, heavy workload, a toxic working environment, inflexibility, lack of job control and repetitive work are possible causes of stress in the apparel industry.

Apparel factory workers are not required to possess special skills or higher educational levels. The factories offer jobs to school leavers and train them on respective low skilled jobs such as

machine operators. This has resulted in a lack of job security among most of the regular jobs in the apparel industry. Only very limited opportunities are available to progress and obtain promotions. Both over-promotion and under-promotion can cause stress. In under promotion stress may be caused when a person has developed skills beyond the work entrusted on him. In case of machine operators, whether they develop any further skills that make them believe they are not given due promotion is arguable. Lack of job security and limited opportunity for career development are considered as possible sources of stress among apparel workers.

The relationship with others can be both a source of stress and also a mediator that controls stress. It has been found that positive relationships with all workers help to reduce strain from workplace stressors (Beehr, Jex, Stacy, and Murray, 2000; Barker, 2002).

Abusive supervision and workplace incivility are issues that are generally associated with the apparel industry. Despite the attempts being made to overcome the issues related to worker abuse, harassment and discrimination through the introduction of codes of conduct (Emmelhainz and Adams, 1999), poor relationships are noted among the supervisors and factory workers. Tepper (2000) established that abusive supervisory behaviors caused distress.

A lack of effective consultation and financial difficulties may also be possible stress factors (Michie, 2002) applicable in the apparel industry. Long working hours have been shown to be creating problems for workers and their families (Crouter et al., 2001). The family relationships are negatively affected by long working hours, non-standing schedules and high physical demands (Shreffler, Meadows and Davis, 2011).

There are many implications of workplace stress, among which are high turnover (Ho, 1997; Manning and Osland, 1989) and job satisfaction. Another factor is work family conflict (WFC)

and work overload is considered as the primary reason for WFC (Linzer *et al.*, 2002, Major, Klein and Ehrhart, 2002). As mentioned above, the apparel industry employs large numbers of workers in factories and most of the jobs can be considered as low skilled. Hsiao and Barak (2014) noted that these jobs are inflexible with little job control and conditions leading to strains in work and family roles. Work family conflict can cause stress as well as can be a strain resulting from stress.

Another important aspect is the negative health, psychological and physical impacts (Shirey, Ebright and McDaniel, 2008) resulting from work related stress. Melo Junior (2012) noted that the repetitive work in apparel industry workers and machine operators in particular has led to diseases, such as musculoskeletal disorders (MSDs).

How an individual perceives stress as well as the coping strategies used may depend on the context. Therefore, the general theory developed elsewhere may not be applicable as it is to the context under study.

Coping strategies for dealing with stress can be categorized into two main types, problem focused coping and emotion focused coping. The problem focused coping methodologies used at work aim to remove any barriers to achieve goals (Harris, Daniels and Briner, 2004). The use of problem focused coping methodologies may be helpful in calming down stressful situations (Grebner *et al.*, 2004), career success, and goal attainment (Grebner *et al.*, 2010). The use of problem focused coping requires the environment to facilitate analyzing the problem situation, prepare an action plan and execute the plan. It is unlikely that a highly controlled and paced production environment like that of apparel factories would provide the necessary environment

to make use of problem focused coping. The emotion focused coping is aimed at dealing with the emotional disturbances that results from the demands.

The implications for the organization as well as for employees make it important that work-related stress issues are addressed. Michie (2002) noted that an organization should address these issues due to its long-term economic interests. Further it will reduce turnover and absenteeism, sickness, and accidents while increasing the work performance and client satisfaction.

1.4 Role of the practitioner

I consider myself as both an outsider and an insider for this research. Being a researcher that initiated the PAR project from outside, I can be considered an outsider. However, I worked as a group head of information technology for a leading apparel manufacturer for two years. As a result, I have an understanding of the community of the apparel workers. During my two years stay in the apparel industry I witnessed many incidents that could be considered as abusive supervision. Poverty was an evident common factor among apparel factory workers. The research project of the DBA program offered me an opportunity to make an attempt to alleviate the stress perceived by factory workers in the Sri Lankan apparel industry.

This research is done as a part of the DBA program. It was initiated by me. There are many studies that have used Participatory Action Research (PAR) conducted as outsiders that initiated research, for example Cahill (2005), McIntyre (1995), Nygreen (2006) and Mock (1999) are some studies that took the above approach. I worked collaboratively with 25 participants from factories in the apparel industry of Sri Lanka to deepen the understanding of myself as well as the participants to the stress perceived by community members, then worked on actions to implement the findings.

My role as a researcher and a practitioner changed during the research. I played multiple roles during the research that entailed learning. The roles ranged from being a researcher, teacher, trainer, to that of being a participant. The research increased my skills in the areas of critical thinking, training and social interactions. It improved my knowledge and understanding in the areas of research, stress, apparel industry and statistics. The research entailed me living to my values by helping an oppressed community improve its skills and knowledge in order to find answers to their problems on their own.

1.5 Core concepts and definitions

A considerable amount of research has been done on work related stress. Stress is defined as ‘the psychological and physical state that results when the resources of the individual are not sufficient to cope with the demands and pressures of the situation’ (Michie, 2002). The definition captures two important aspects of stress. Firstly, it acknowledges that stress is a result of a mismatch between the person and the environment. In other words, if the relationship between the person and environment is out of equilibrium, it may result in strain (Edwards, 1991; Edwards and Cooper, 1988). Secondly, the definition clarifies that stress is based on the characteristics of an individual. That is to say, how an individual perceives different factors at the workplace or the misfit between the individuals’ abilities and resources affects the stress level. This transactional nature of stress is difficult to measure due to the challenges of measuring constructs involving perceptions, such as perceived misfit.

The adaptation of the behavior or cognition by an individual to deal with a perceived stressful situation is known as coping (Cox, 1987). According to transaction theory, coping is not a one-time action. With changes taking place in the encounter the situation is reappraised and further

action is taken to cope with the new situation. Despite many attempts being made to have general coping strategies, they are unlikely to work for a specific situation, context and due to not taking individual differences into account (Cox, 1987). Coping methods should be understood with due consideration to the context. There are two main types of coping (Lazarus and Folkman, 1984), problem focused and emotion focused coping. While problem focused coping attempts to address the source of stress and eliminate or minimize the stress, emotion focused coping is aimed at reducing emotional distress.

1.6 The problem

As foreshadowed above, stress is traditionally associated with assembly line workers and many past studies have linked the stress experienced by machine operators in the apparel industry with their repetitive work (Hansen *et al.*, 2003). Workers are faced with issues of high physical and psychological demand, time pressure and excessive workload.

Among the organizational implications of stress are high turnover (Ho, 1997; Manning and Osland, 1989) and job satisfaction. Another outcome of stress is the work family conflict (WFC). Work overload is considered as the primary reason for Work-family conflict (WFC) (Linzer *et al.*, 2002, Major, Klein and Ehrhart, 2002). The apparel industry is generally associated with sweatshop conditions (Emmelhainz and Adams, 1999). Cases of long hours, abusive supervision, non payment, salary discrimination and overnight lock-ins are well reported and documented in the apparel industry (Barnes and Kozar, 2008). Due to heavy competition many retailers in the US have moved their production to developing countries. This has enabled the company in this study to exploit low-cost labour. There are many well-known US brands that have been reported for abuse and discriminatory practices (Barnes and Kozar, 2008). A study done among apparel

workers in Congo by Kitronza, Panda and Mairiaux (2015) noted that stress was higher among the less experienced and younger employees. These employees attributed it to lack of knowledge to face the challenges. Taking into consideration the causes and the impact of stress, it is clear that finding solution is important to the factory workers as well as the management. As foreshadowed above the management problem considered by the present research is ‘What factors cause stress among the employees in apparel factories in Sri Lanka, their impact and possible interventions?’.

1.7 Research questions

In order to address the abovementioned management problem the following research questions are proposed:

1. What are the factors causing perceptions of stress for factory workers in a Sri Lankan apparel factory?
2. What actions do workers in a Sri Lankan apparel factory take to cope with perceived stress in the workplace?
3. How can workers in a Sri Lankan apparel factory deal with perceived workplace stress more effectively?

The research is important as it makes a contribution to practice by providing actionable knowledge in a workplace where none exists at present. In doing this it will give voice to a workforce that currently is oppressed and marginalized. It will also extend the existing literature on stress and coping within the apparel industry in general, and Sri Lanka in particular.

1.8 Methodology

The studies conducted in the apparel industry have failed to produce local knowledge that is useful in effective intervention actions. They lack the richness required to fully understand and comprehend the factors causing stress and coping strategies. In previous studies only a limited number of factors had been considered as sources of stress. Hypothesis testing used in these studies are based on stress factors identified in other studies that have been conducted in mostly non-representative contexts. As a result, the factors unique to the context of Sri Lankan apparel factories have not been derived from the workers themselves. It is noted that previous research had considered the interactional form of stress, thereby dividing the notion of stress into stimuli and strain. In this approach the researchers have lost the transactional nature of stress and the stress process itself. Previous studies have remained as academic exercises with little or no impact on improving the workplace situation of apparel industry workers. To that end researchers have failed to take into consideration the human aspect of workplace stress and higher-level objectives of emancipation and social justice.

It is important to consider the impact of the culture on studying stress, its impacts and possible solutions. Different coping methods are used by different cultures (Aldwin, 1994; Slavin *et al.*, 1991). The individuals and the environment are affected by the culture (Triandis, 1980, 1994). Consequently, members of a given community in a given country has specific ways of reacting to stimuli. That is to say the shared values of a given community to some degree determines the coping strategy used by an individual. This results in the need to adopt a research methodology that can uncover the perspectives of community members and identify specific areas that may affect how stress is perceived and which coping strategies would be used. Even in research based

in Western contexts, it has been observed that the emphasis in work stress theory is affected by the socio-political context (Calnan, Wainwright, and Almond, 2000).

It should be noted, in addition to these etic elements the emic elements that are more general are relevant in studying stress. Consequently, both etic and emic elements should be used together to study work stress. Such approaches are observed in Narayanan, Menon, and Spector (1999). Participatory action research (PAR) is an approach that does not transport global theories to the local context and is dialectic in nature. It uses the participation of the local community in order to unearth context based knowledge. PAR is a research method that is often used where problems related to equity and oppression are studied (Hunter, Emerald, and Martin, 2013). It follows then that PAR is a suitable approach to for use in stress related research due to the high importance of the local context (Maureen *et al.*, 2008). In finding possible interventions to work related stress, the participation of the others from the community is similar to Israel *et al.* (1989). PAR is a cyclic process and similar to other forms of action research in that aspect. The standard cycle by Kemmis and McTaggart (1987), which is made of a cycle of plan, act, observe and reflect is applicable for PAR. The PAR cycle consists of questioning of a particular problem, reflecting on the problem and investigating, developing an action plan, implementing and refining the plan (McIntyre, 2008).

Guided by a PAR methodology the study will use a mixed methods approach to collect and analyse data. A quantitative stage, developed in conjunction with a learning set, will obtain data from factory workers by means of a questionnaire. The results of the quantitative stage will be reviewed by workers in a subsequent qualitative stage of the research.

1.9 Thesis structure

This thesis is presented in the following structure

1. Abstract

The abstract section provides a summary of the research and the main findings.

2. Introduction

The introduction provides where the research is located, what was achieved and the values associated with this research. The background provides the reasons for doing the research and the values of the researcher. Further, the chapter provides the context of the research in terms of the personal context and theoretical context.

3. Literature Review

Includes a critical engagement with the key literature related to the present study.

4. Methodology

This provides the details of how the study was planned and carried out.

5. Results/ Research Findings

This area covers the findings of the research.

6. Discussion

A discussion on the implications of the study.

7. Reflection

A reflection of the overall research from the point of view of the researcher and the other participants.

8. Conclusion

Tying up of everything of the research

1.10 Chapter summary

Stress is a result of person-environment misfit. It is well known that the conditions prevailing in apparel factories may lead to considerable stress among the factory workers. The conditions include heavy workload, abusive supervision, workplace incivility and low salary. Action Research (AR) and Participatory Action Research (PAR) in particular is most appropriate to study the notion of stress, due to the influence of the local context and focus on the community.

Chapter 2 Literature Review

This chapter will begin with an overview of the research problem that provides the context for the study. The research problem is ‘What factors cause stress among the employees in apparel factories in Sri Lanka, their impact and possible interventions?’. It will then proceed to provide the relationship between the work done on this area so far and establish the nexus with present study. It will begin with a definition for stress which is followed by existing stress models, work stressors, factors causing stress in apparel industry, impact of individual difference and coping. A brief discussion on the assumptions and hypotheses of the study explaining the rationale for the research question and the study will be followed. The final section of the chapter will position Action research as the methodology for this study.

2.1 Overview of the research problem

The research problem is ‘What factors cause the stress among the employees in apparel factories in Sri Lanka, the impact and possible interventions?’ Sri Lanka is a developing country and a leading apparel manufacturer in the world. It is known as a high quality garment manufacturer. The industry contributes positively towards the GDP of the country (Dheerasinghe, 2003). While more than 340,000 people are employed in this sector, 87% of them women (Sivananthiran, 2009). According to the Central Bank Of Sri Lanka (2013) the earning from Textile and Garments had gradually increased to US\$4.5 billion by the year 2013.

Hsiao and Barak (2014) noted that most of the workers in apparel factories are involved in low skilled jobs that are inflexible with little job control. According to Michie (2002) such

uncontrollable situations are likely to cause work related stress. Due to tough deadlines from the buyers, the factory workers are constantly put under pressure to meet the deadlines. The time limited events such as work deadlines are identified as factors causing work stress (Michie, 2002). In case of the apparel industries, other than the job inflexibility, tight deadlines and repetitive working action, the industry is widely criticized for prevailing working conditions. Ho, Powell and Volpp (1996) noted that the industry is associated with long working hours, abusive supervisory behaviour and poor working conditions. Emmelhainz and Adams (1999) noted the presence of such sweatshop conditions in many countries and factories. Consequently, prevailing conditions and work demands in the apparel industry satisfies the prerequisites for a stressful employment.

Considerable amount of research has been done on work related stress. Stress is defined as ‘the psychological and physical state that results when the resources of the individual are not sufficient to cope with the demands and pressures of the situation’ (Michie, 2002). The definition identifies the fact that work stress is a result of the interaction between an individual and the demand within his environment (Long, 1995, cited in Colligan and Higgins, 2006). Kollbell (1995, cited in Colligan and Higgins, 2006) considered an individual's real or perceived abilities to successfully cope with the demand on defining the work stress. The word ‘perceived’ is of importance as it recognizes that the stress is psychological state and it can be subjective. Beehr (1998) noted that personal characteristics of individuals has the ability to moderate the relationship between the stressor and strain. Type A and type B behavior patterns remain popular means of segmenting individuals based on personal characteristics. While extensive research had been done on Type A behavior pattern leading to coronary heart disease (Edwards, Baglioni and

Cooper, 1990) , limited research done on the moderating effects of behavior pattern on stressor-strain relationship.

Despite the large number of studies on stress, only a limited number of researches have been done on apparel industry. Steinisch *et al.* (2013) studied the factors affecting stress in a ready made garment (RMG) factory in Bangladesh and its association with self-reported health outcomes. However, the research suffers from several drawbacks. The sample is limited to a single factory, making it difficult to generalize the findings. This is specially the case as working conditions of all factories cannot be assumed be the same. In addition, the stress is measured using effort reward imbalance (ERI) questionnaire with very limited contextual additions. ERI is primarily based on the assumption that the “work-related stress is identified as non-reciprocity or imbalance between high efforts spent and low rewards received” (Siegrist *et al.*, 2004). While it is applicable, ERI is insufficient in environments like apparel, where sweatshop conditions prevails widely. Further this research had only focused on health issues resulting from work stress.

The only research done on work stress in the apparel sector in Sri Lanka is from Fernando *et al.* (2010). This study used a very small sample of 50 employees from 10 factories. Further, the research is very poor in its literature review and analysis. It used five variables. Namely, the Job Involvement, Job Ambiguity, Culture, Salary and the work Environment. Other than finding the inter correlation among the variables, It failed to contribute to understand the factors causing stress among apparel workers.

There is no research done on the use of behavior pattern (Type A and Type B) as a moderator to influence stressor–strain relationship in the apparel industry.

The present research is expected to fill the gap in literature where factors affecting stress among the employees in Sri Lankan apparel factories is not fully studied. It will further study the possibility of using individual behavior pattern to reduce the strength of the relationship between stressor and the strain. As some individuals remain in the apparel industry despite the possible stressful environment, it is likely that the personal characteristics play a moderating effect. The combination of the identification of the factors creating stress in the industry and possible use of behavior patterns to impact stress-strain relationship will lead to establishing actionable knowledge to lower stress in apparel companies in Sri Lanka. The research will not be limited to the measurements under ERI as in the case of Steinisch *et al.* (2013). Perrewe and Ganster (2010) noted that workplace incivility and supervisor abuse have appeared as social stressors. Tepper *et al.* (2008) identified the abusive supervision as a chronic stressor. The work of Tepper *et al.* (2009), Tepper *et al.* (2008) is primarily focused on abusive supervision and not on stress. The present work will for the first time consider the abusive supervision as a possible stressor in a work stress focused study of apparel industry. In addition to abusive supervision, the research will create a nexus between the present knowledge of stress and sweatshop conditions. In addition it will verify the impact of repetitive action of the machine operators as a possible source of stress. Further, the research will take a more holistic approach to work stress and will not limit the research to identification of the factors causing stress. It will add the areas of impact of stress and possible intervention through the use of behavior pattern. Such holistic approach had been previously taken by Cooper, C. L. and Baglioni Jr, A. J. (2013). They tested several stress models in a study on nurses in health industry covering stress and coping methods. The study included the moderating effect of Type A behavior pattern.

While building on the previous work of Steinisch *et al.* (2013) and Fernando *et al.* (2010), the present research will use the model of stress at work by Michie (2002) and Murphy (1995) as a base model to expand the possible sources of stress used in previous studies. Its theoretical foundation for the study will be based on demand-control and demands resources models of stress. It will study the possible implications of stress such as work family conflict (WFC), health issues, job satisfaction and turnover. It will study the role of individual behavior pattern as a moderator in the stressor-strain relationship.

2.2 What is stress

The word ‘stress’ provides different meanings to different individuals. This amorphous nature of the use of ‘stress’ has resulted in difficulties in providing a clear definition to the same. Despite the lack of clarity in the use of ‘stress’, the existing literature provides alternatives to its meaning.

Stress has been defined differently based on the different approaches taken by the researchers. That is to say the researchers have used the definition which is more appropriate for the objectives of the given research. Stress is defined as an independent variable on some occasions while it has been defined as a dependent variable on many other locations (Cox, 1985). Stress is used as an independent variable in case of stimulus based approach. The response based approach considers stress as a consequence. This results in stress being considered as a dependent variable. The usage of dependent variable is more prominent in medical research. The third approach to stress regards it as a process. The process approach deems stress to be the result of a transaction between a person and the environment (Lazarus and Folkman, 1984).

The stimulus based approach focuses on the external environment. The attention was paid to noxious environmental characteristics or major trauma. The stimulus based approach has been effective in identifying sources of stress in work places. It contributed to improving physical working conditions. However, the approach fails to recognise the individual differences in facing external demands.

The response based approach considers stress as an internal state of the individual. This approach intended to diagnose the symptoms rather than finding the cause of stress. Selye (1956) introduced the principles of stress related illness and general adaptation syndrome (GAS). Selye described stress as a response from the body, which is non-specific and results in when the demand is made on it (Cooper *et al.* (2001, p.5). There are three phases in GAS. They are alarm, resistance and collapse. Despite its heavy contribution to medical knowledge and understanding stress, the response based approach is heavily criticised. While it does not pay attention to stimulus or the causes for stress, it only focuses on the result. In other words, it did not consider the external factors from the environment. It assumes that the reaction by all individuals to an external demand is the same. In that, it fails to recognise the differences among individuals or the role of individual differences. The focus had been to find general patterns and establish common methods of treatment.

In addition to the drawback of inability to recognise individual differences and the relevant cognitive process (Sutherland and Cooper, 1990), it is argued that both approaches fail to identify the importance of temporal dimensions of stress. The duration of the stress as well as the speed of onset will result in different psychological effects on an individual. The effects of short-term, chronic and intermittent stressors are different (Dienstbier, 1989).

In order to come up with a consistent set of terms to be used in this document, the following definitions from Beehr (1998) will be used. Events or conditions in the work environment that produce stress are called stressors. When an individuals consider stressor stimuli as harmful to themselves, their responses to such stimuli are called strains. Beehr (1998) described stress as a generic term that is used in situations where stressors and strains are prevalent.

The studies of stress involving both stressors and strains can be categorised into two approaches. They are interactional and transactional. The interactional studies are focused on establishing causal directions between stress and strain. The studies include different moderators that play a role between a given stress and strain. However, the studies fail to capture the nature of the relationship between stress and strain and failed to represent the dynamic nature of the stress process (Cooper *et al*, 2001,p.11). The reaction of an individual to cope with a given stressor may in turn affect the stressor itself or change how the individual perceives the stressful condition. This ongoing interaction between a person and the environment is not recognised in the interactional approach. In contrast, the transactional approach identifies the dynamic nature of the stress process. It recognises that stress is not due to the environment alone or based just on the person. It recognizes the stress as a result of ongoing transactions between the person and the environment.

2.3 Stress models

2.3.1 Person environment fit model

The Person environment fit model is built on a few basic premises. The model claims that stress is an outcome of a misfit between a person and his or her environment (French *et.al.*,1974). Both the environment and the person have subjective and objective representations. The objective

environment is the actual environment as it is. The subjective environment is what is perceived by an individual as his environment. Similarly, an objective person is a representation of the actual attributes of an individual whereas the subjective person is the perceptions of the traits of an individual. This creates four different combinations (Edwards, Caplan and Harrison, 1998). They are: 1) objective personal environment fit; 2) subjective personal environment fit; 3) contact with reality; and 4) accuracy of self-assessment. It is accepted that the actual environment causes strain only when an individual perceives it that way. In other words, what is more relevant is the subjective environment and subjective person. Individual differences cause different people to have received the same environment differently. It is very unlikely that an individual will perceive the actual environment as it is. Despite its popularity in theory building, there is limited empirical evidence for the model. This can be attributed to lack of consensus among researchers on how to measure the misfit and the relevant constructs to be used (Edwards and Cooper, 1988). The notion of both an individual and the person impacting the stress is present in several models of stress. Some examples are Lazarus and Folkman (1984), Karasek's Demand/control model of occupational stress (Karasek, 1979; Karasek and Theorell, 1990).

2.3.2 General systems model of stress

Cox and McKay (1981) described stress based on the General Systems theory. The model identified the stress as a process. , The stress process was divided into five stages. The first stage was the demand from the environment. In that the environment acts as the source of the demand. The second stage is the perception of the individual comparing the demands from the environment and his or her ability to cope. This stage is more in line with the primary appraisal described by Lazarus and Folkman (1984). If the individual believes that this ability exceeds the demand from the environment, he is unlikely to consider the external event as a stressor. In

contrast, if the individual's ability is not sufficient to cope with the external event he or she is likely to consider it as a stressor. In the third stage the individual creates a perception based on the demand perceived and the perceived resources. This is effectively the secondary appraisal described by Lazarus and Folkman (1984). In effect, the individual establishes the alternatives available for him at this stage. The fourth stage is the evaluation of coping activities. The fifth stage is the feedback, which completes the cycle. The final stage is in fact the reappraisal.

2.3.3 Cybernetic theory of organizational stress

The cybernetic theory proposed by Cummings and Cooper (1979) is built on the principles of homeostasis. Cybernetic theory posits that an individual detects any deviation from a predefined goal state using information available at a given point in time as a feedback. The individual keeps acting in a manner that reduces the deviation from the goal state. According to the model, each variable has a range within which strain will not be experienced by an individual. However, when a variable falls away from that range it can cause strain. The detection of this deviation results in a forceful action intended to bring the variable within the acceptable range. This may or may not be possible based on the resources of the individual.

2.3.4 Transactional model of stress

Lazarus and Folkman (1984) considered stress as an outcome of transaction between an individual and the environment. According to the theory the appraisal is core to the stress process. The appraisal consists of two stages. In the first stage, an individual would decide whether a particular encounter would affect his or her well-being and in what manner. This was called the primary appraisal. The individualHe would appraise the encounter in terms of harm, rate, loss, challenge, or whether it was benign. The secondary appraisal is concerned with, what

can be done to resolve the problem. In this phase the individual evaluates the alternatives available and the resources that can be used to cope with the stimulus from the environment. The individual will perceive the stress based on the mismatch between the demand and the individual's resources. If the individual think that he or she is not in a position to manage the situation, the individual would experience strain. As different individuals would appraise an encounter differently, the individual difference is well recognised in the model of Lazarus and Folkman (1984). The transaction model has further been developed by detailing the primary appraisal. During the phase of primary appraisal an individual will consider many personal and situational factors. The person will judge whether a given situation is challenging, causing anxiety or depressing. If the conditions are anxiety-producing or depressing it is likely to be stressful (Cox 1991;Cox and Ferguson,1991; Cox 1985)

2.3.5 Karasek's demand/control model

Karasek's Demand/control model of occupational stress (Karasek, 1979; Karasek and Theorell, 1990) has been widely used in occupational health psychology (de Lange, Taris, Kompier, Houtman and Bongers, 2003).The model was intended to predict the risk of the stress related illness using work demand and job control. The job control consisted of measures combining task control and decision latitude. According to the demand-control model the highest level of psychological strain is a result of high psychological demand and low decision latitude (Karasek and Theorell, 1990). Most of the research based on the demand-control model have been on the "high-strain" jobs (Kain and Jex, 2010, p241) . Production line workers are a good example of "high-strain" jobs (Kain and Jex, 2010, p238) . The case study of garment workers by Kerckhoff and Back (1968) provides an example of high demand in terms deadlines resulting in psychological strain. These workers had little control over the work they did and how it was

done. In the case of garment workers, deadlines are determined by the customers' requirements and these set the pace of the work.

Karasek's model (Karasek, 1979; Karasek and Theorell, 1990) describes the other interactions between demand and control as well. While it categorizes the jobs with high demand and high control as "Active jobs", the model positions low demand and high control as "Low-strain" jobs". The final combination of low demands associated with low control was categorized as "Passive jobs". In the case of "Active jobs" the demand can be considered as challenges. The employee has the opportunity to use his or her skill in the manner he intends to and how he uses his skill. The person wishes to. In other words, despite the job presenting high demand, the individual has high control over the situation. The employee learns by employing different coping strategies to the problems at hand. This increases the alternatives available for the employee when he faces similar situations in the future. These types of jobs entail developing skills, growth and competency. A few examples of these types of jobs are doctors, businessmen. In contrast "passive jobs" are jobs with low control and low demand. Jobs of this nature lead to reduction in competency with time. Inability to use skill may result in dissatisfaction and boredom. The last type of jobs are those with low demand and high control. An example for this "low strain" job is lecturers.

2.4 Research support for demand/control model

Karasek's model can be used to predict different outcomes. Firstly, it can be used to predict job strain. Secondly, the model can be used to predict motivation, though most of the earlier research was focused on the job strain aspect. An analysis of the existing literature indicates two different methods of testing Karasek's model. The first method involves using demand and control as

variables independently influencing job strain. This is commonly referred to as additive hypothesis. The second method pays attention to integration or interaction between those two variables on predicting job strain. This is known as buffer hypothesis.

Van Der Doef and Maes (1999) published a review covering research done between 1979 and 1997 that were based on Karasek's model. While they found considerable support for additive hypothesis insufficient support was noted in the case of buffer hypothesis. Only 15 research out of 31 research studies provided at least partial support for buffer hypothesis. Van Der Doef and Maes (1999) suggested that specific type of control is more useful against specific demand rather than general control over unrelated demands. The recent review by Hausser, Mojzisch, Niesel and Schulz-Hardt (2010) further strengthen the findings of Van Der Doef and Maes (1999). Hausser, Mojzisch, Niesel and Schulz-Hardt (2010) reviewed 87 studies that were carried out between 1998 and 2007. While the additive hypothesis was well supported when sufficient sample size was used, the buffer hypothesis was not supported. The both reviews included demand control and support model in addition to the base model of Karasek. De Jonge et al.(2010) tried to address the issues related to global measures, self-report, cross-sectional in a study of employees of a Dutch care foundation. The research tried to minimise the shortcomings highlighted by Van Der Doef and Maes (1999). It used demand with corresponding aspect of control avoiding global measures of control. The research used both self-report and objective measures. The study suggested interaction between demand and control as per the buffer hypothesis.

Despite muchany research distinguishing between additive hypothesis and buffer hypothesis Karasek (1979) and, Karasek and Theorell, (1990) claim that interaction between demand and control is not a prerequisite to satisfy Karasek's model. In other words, the establishment of

independent influence of control and demand is sufficient to support the model. However, it is argued that interaction between demand and control constitutes the core of the Karasek's model. The absence of interaction suggests that demand can be increased substantially without causing strain as long as sufficient control is provided.

Several reasons have been provided for inconsistent results of the studies done based on Karasek's model. Firstly, it is noted that there is no agreement among researchers on how the model is to be tested (de Lange *et al.*, 2003). Secondly there is no consistency among the variables that have been used to measure core concepts of the model. These concepts include demand, control, strain (Van Der Doef and Maes, 1999). Thirdly, some research uses global controls instead of specific controls applicable against specific demands (de Jonge *et al.*, 2010).

Spector (1998) attributed the difference between the objective environment and the perception of that environment by an individual to the inconsistent empirical support for Karasek's model. A condition in the environment becomes a stressor only when an individual perceives it as such. Similarly, control can be divided into two different types. It can be environmental control or control perceived by an individual. Consequently, a research would provide different results based on whether objective or subjective control and demand is considered. Further, control can have other impacts than its moderating effect. It is argued that control itself can act as a stressor. Control can be a factor of an individual's interpretation of the environment. Based on the context and the role played by control in that particular context can lead to different results on a study. Different studies have used different measures of demands and control. Karasek (1979) has used self-reported workload and the role conflict in order to determine the demand. He has used autonomy and decision making in order to measure control. Self-reported workload and patient load have been used as measures for demand by Fox *et al.* (1993). Landsbergis (1988) has added

physical exertion and hazard exposure to measure demand. With respect to control, autonomy and decision making have been used by Karasek (1979). In contrast Fox *et al.* (1993) has used task control, procedure and policy control in order to measure control. The use of different variables is a result of using either epidemiological model of cognitive appraisal model based on the appraisal model used (Kain and Jex, 2010). While the epidemiological model intends to link risk to actual sickness the cognitive appraisal model focuses on understanding the stress process.

2.5 Expansion of Karasek (1979) model

Karasek (1979) mentioned the possibility of individual's perception influencing control and subsequently the psychological strain. However, the model does not encompass any variable representing individual differences or other factors affecting psychological strain. In a study done by Johnson and Hall (1988), it was found that the interaction between demand and control was limited to individuals receiving high levels of social support. This finding led to the extended model called "iso-strain" model. Most of the subsequent studies were based on this extended model by Johnson and Hall (1988). In addition to the social support many other variables had been proposed to expand Karasek's model. Among them are the position in the organisation (Eden, 1992), proactive personality (Parker and Ssprigg, 1999). The study of Parker and Ssprigg (1999) included 268 production employees. The analysis found the buffer hypothesis was only supported for proactive employees. In addition, the study confirmed that learning can be influenced by demand, control interaction. In a recent study by Verhofstadt (2017) involving 3158 employees over five-year period, it was found that the impact on strain as well as learning decreased with the number of years of work.

Fletcher and Jones (1993) criticised Karasek's model claiming that the model was too simple and failed to include a sufficient number of job characteristics that may impact job strain. The study carried out by Fletcher and Jones (1993) established that demand and discretion could independently predict psychological strain. However, it did not support the interaction between demand and discretion. The study used discretion to replace control/job latitude mentioned in Karasek (1979). Fletcher and Jones (1993) suggested that prediction became more accurate with the inclusion of additional variables to represent interpersonal support and relationships. Therefore, they recommended that a future model should take into consideration more characteristics than demand and control.

Sparks and Cooper (2013) is another study that included variables other than control. Sparks and Cooper (2013) conducted a study of 7099 employees belonging to 13 different occupations. The study tested for six additional job characteristics apart from control. They are factors intrinsic to the job, organisational role, relationship with others, career and achievements, organisational structure and climate, home/work interface. It was established that the six factors contributed to the job strain in a similar manner to job control. Further, it was established that the causes for strain varied from one occupation and one context to another. Based on the findings Sparks and Cooper (2013) suggested models such as Murphy (1991) was better suited to study job strain than Karasek (1979) that was focusing only on one characteristic contributing job strain. Sparks and Cooper (2013) recommended that their study should be further enhanced adding factors related to individual differences in future studies. Eg. type A behaviour, hardiness of an individual.

2.6 Work stressors

2.6.1 Work role stressors

Three types of roles stressor are identified. They are role ambiguity, role conflict, role overload (Rosen *et al.*, 2010). Role ambiguity refers to lack of clarity with reference to expectations from one's job. Role conflict occurs when there is no compatibility among different roles expected to be played by an employee. That is to say, performing one role will interfere with the requirement of the other role (Rizzo, House, and Lirtzman, 1970). Both role ambiguity and role conflict leads to uncertainty (Jex *et al.*, 2003), decrease of individual satisfaction and the effectiveness for the organization (Rizzo, House, and Lirtzman, 1970). The employee will be left with a dilemma on which responsibilities should be prioritised or how the contradicting roles can be performed. The inadequacy of resources and available time for an employee to fulfil his responsibilities leads to Role overload. Wheaton (1996, P.58, cited in Aldwin, 2009, p71) associated demand and complexity as characteristics of role overload. Role overload creates a situation where an individual perceives that he has to attend to multiple demands that are independent, uncontrollable and immediate simultaneously. Most studies on Role overload have primarily focussed on the work Role overload (Duxbury, Stevenson and Higgins, 2018). In a study with 4947 men and 3923 women, it was established that the combined role overhead including both work-role and family-role overhead predicted perceived stress. The finding is of special importance as in order to cope with total-overload an individual may divert available resources to one domain (eg. To manage family Role-overhead).

2.6.2 Workload

Workload refers to the amount of work performed by an employee. While it is generally accepted that work overload leads to strain, it is noted that work underload is also a contributory factor for work stress (Cooper *et al.*, 2001). In other words, stress may result in both underload and overload of work (Cox, 1987). There are two types of overloading. They are quantitative and qualitative (French and Caplan, 1973). Quantitative overload indicates that a person is given too much work. Qualitative refers to overloading too difficult work. The same is applicable for underloading. However, whether overloading is considered as a stressor is dependent on the occupation (Narayanan, Menon and Spector, 1999).

Qualitative overloading has been observed in studies done in certain professions such as university professors (French, Tupper and Mueller, 1965). It is important to note that work load or to that matter work overload is not always a stressor. It can act as a challenge or a hindrance (Webster, Beehr and Love, 2011). Whether an external event or a condition acts as a stressor is dependent on the appraisal by an individual (Lazarus and Folkman, 1984).

2.6.3 Situational constraints

Any organizational factor that makes it difficult for an employee to conduct the work entrusted is considered as a situational constraint (Peters and O'Connor, 1980). These constraints may range from lack of necessary equipment or supplies, insufficient budget, red tape, limited time availability to disturbances from other employees. Coch and French (1948) found that greater participation leads to higher productivity as well as increased job satisfaction in a study done at a sewing factory.

2.6.4 Job control

Lack of control over the entrusted work leads to strain (Karasek, 1979; Jex 1998). Control is the opportunity to choose an action from available set of options (Ganster and Fusilier, 1989). The job control can be in many forms. It can be control over job scheduling, the technology used, control over physical conditions etc. It is likely that lack of control in any area will lead to strain.

2.6.5 Social characteristics of the work place

In a longitudinal study involving 663 individuals it was noted that interpersonal and organizational counterproductive work behavior (CWB) are related to stress in the work place (Meier and Spector, 2013). Higher levels of stress and lower levels of Psychological capital result in increase level of incivility (Roberts, Scherer and Bowyer, 2011). Incivility is a stressor that has been given special attention in the recent times. Incivility is a low-intensity harmful behaviour from individuals deviating from the norm and without a clear intention to harm (Andersson and Pearson, 1999). It should be noted that when an individual becomes a target of incivility, it may lead the person to involve in CWB (Penney and Spector, 2005).

Abusive supervision is another social characteristic in the work place that is a stressor. Abusive supervision refers to both verbal and non verbal hostile behaviour that is sustained as perceived by an individual (Tepper, 2000). The interpretation of the individual is important as the same individual may consider the behaviour or communication of a supervisor hostile or not based on the context. Actions such as yelling, intimidation, silent treatment, bad language (Tepper, 2000), taking credit for subordinates work, scapegoating (Keashly, Trott, V., MacLean, 1994) belongs to abusive supervision. It has been found that abusive supervision increases the intention to quit of the employees (Tepper *et al.*, 2009). In a study done in Japan involving 604 employees, it was

noted that avoidance of the supervisor moderates the relationship between abusive supervision and promotions (Peltokorpi, 2017). Abusive supervision may not always be intended to harm an individual. The intention may be to achieve the objectives of the organisation and send a clear message that any deviation will not be tolerated (Tepper, 2007). Yet the abusive action falls within the definition of abusive supervision

2.6.6 Career-related concerns

Career -related stressors take many forms. These range from over and under promotions, job insecurity to failed ambitions (Cooper and Marshall, 2013). There are two different types of controls, namely, control over an individual's tasks and control in general, which is participation in general decision making (Spector, 1998). What is more relevant in case of reducing or buffering strain is the direct control over the specific job stressor. It is argued in some cases control itself can act as a stressor. If an individual is not capable of the task entrusted the control over the task may only add pressure and act as a stressor. In other words, control with less self efficacy may not buffer or mediate the relationship between work stressors and strain.

2.6.7 Job conditions.

2.6.7.1 Existence of the acute stressors in the work place

Acute stressors are episodic in nature and are of high intensity (Rosen *et al.*, 2010). The amount of studies done on acute stressors is very limited. The studies done on acute stressors reflect that they have short-term effects on individuals but very limited impact on job performance (Rosen *et al.*, 2010).

The perceived stressors are different among different occupations (Narayanan, Menon and Spector, 1999). For example nurses working in an intensive care unit may have different stressors from that of a college teacher. The frequency of experiencing acute stressor may also differ among occupations.

2.7 Factors causing stress in apparel industry

Stress is traditionally associated with assembly line workers and many past studies have linked the stress of machine operators in apparel industry with their repetitive work (Hansen *et al.*, 2003). They are faced with issues of high physical and psychological demand, time pressure and excessive workload.

Long work hours lead to insufficient amounts of sleep which may result in health and safety risks (Caruso, 2014). The relationship between long hours and psychological distress is mediated by the decision latitude and psychological demands (Haines *et al.*, 2012).

In their review, Ganster, Rosen and Fisher (2016) claimed that direct causal relationship could not be established between working long hours and physical or psychological well-being. It was noted that sufficient amount of longitudinal studies had not been done on the area.

The apparel industry is known for sweatshop conditions and cases of long hours, abusive supervision, non payment, salary discrimination and overnight lock-ins are well reported and documented (Barnes and Kozar, 2008). Due to heavy competition most of the retailers of US have moved their production to developing countries. This has enabled the company in this study to exploit low-cost labour. There are many well-known US brands that have been reported for abuse and discriminatory practices (Barnes and Kozar, 2008).

In a study done among apparel workers in Congo, Kitronza, Panda and Mairiaux (2015) noted that stress was higher among the less experience and younger employees. They attributed it to lack of knowledge to face the challenges.

Ahmad *et al.* (2017) conducted a study to understand the reasons for stress among lower and middle management in the Textile industry of Pakistan. The sample consisted of 125 managers from different areas of production. It was found that the lack of support from line management, tough physical conditions, role and work-family conflict acted as stressors.

In a research done involving 168 Mexican workers in a multinational factory, it was found that constantly increasing demand, role overload, lack of control over the tasks, lack of support from supervisors and work family conflict caused stress. (Hsiao and Mor Barak, 2014). Contrary to the expectation that support from immediate and extended family would reduce stress the analyses indicated the contrary. While the result was contrary to the expectation by the job demand resource model, it was reasoned that the increase of stress was due to the practices of reciprocity in the Mexican culture.

Job ambiguity, low salary, job environment and culture were identified as key sources of stress in Apparel factories in Sri Lanka (Fernando, Selvam and Bennet, 2010). Low salary, lack of supervisory support, negative social image and Job insecurity affected the turnover intentions in a major Apparel group in Sri Lanka according to Dulanji and Hettiarachchi (2016) .

2.8 Individual differences in occupational stress

The relationship between the environmental stressors and perceived job stressors are moderated by two factors. They are locus of control and self-efficacy (Spector,1998). Rotter (1966) noted

that persons differ in their attitude towards reinforcements. While some persons believe that reinforcements are a result of their actions others believe that reinforcements are the result of external factors such as luck, chance, fate etc. This notion is commonly known as locus of control. Individuals who believe that they are in control of the rewards are known as internals. Those who believe that it is controlled by external factors are known as externals (Rotter, 1966). The relationship between stressful events and strain is buffered by the locus of control (Cohen and Edwards, 1989). Locus of control and social support affects the relationship between the stressor and strain (Ariza-Montes *et al.*, 2017). Self-efficacy usually refers to an individual's belief that he or she is capable of accomplishing a task (Spector, 1998). Self-efficacy is focused on a given domain and impacts situational control. Consequently, self-efficacy is something that can change with experience. Those who are with high self-efficacy are likely to experience lesser job stressors as they believe in their skills in the particular domain. This may affect how they cope with stressors as well. It has been found that high self-efficacy positively correlate with problem focused coping (Ganster and Schaubroeck, 1995; Nelson and Sutton, 1990). Folkman (1984) argued that locus of control which is more to do with generalised beliefs of control was associated with primary appraisal and self-efficacy which is to do with situational appraisal was associated with the secondary appraisal described in Lazarus and Folkman's transaction model of stress.

The type A behaviour pattern is defined as "an action emotion complex that can be observed in any person who is aggressively involved in the chronic, incessant struggle to achieve more and more in less and less time, and if required to do so, against the opposing efforts of other things or other persons" (Friedman and Rosenman, 1974) The type A behaviour pattern is sometimes summarised as "hurry sickness" (Friedman and Booth-Kewley, 1987). Characteristics such as

ambitiousness, time urgency, aggressiveness, competitiveness are attached to the type A behaviour pattern. In a study done using a national sample of 3400 men who were free from Coronary heart disease (CHD) it was found that type A men had 1.9 times risk of CHD than type B men (Rosenman *et al.* 1964, 1966). The study is especially importance when one considers the fact that two different groups independently established the personality type and medical status. Similar results had been obtained by Quinlan, Barrow and Hayes (1969) on studying Trappist and Benedictine monks. However, the type A behaviour acting as a moderator between stress and strain has only received moderate support (Ganster *et al.*, 1991). Ganster and his team further noted only certain measurements defined under type A behaviour are responsible for its relationship with CHD. These raises concerns over the instruments used to identify type A behaviour better. Further studies should be done on the validity of the constituents of type A behaviour. The same result was obtained by George (1992). He further claimed that type A behaviour was not associated with strain despite it being associated with physical health conditions. Conceptualisation of type A behaviour needs further studies.

2.9 Coping

In order to deal with a perceived stressful situation or transaction an individual adapts the behaviour or cognition. This is known as coping (Cox, 1987). According to the transaction theory, coping is not one-time action. When the particular encounter changes over time, the situation is reappraised. Based on the new situation further action will be taken to cope with the stressful situation. While many have attempted to consolidate coping strategies based on the existing literature and studies as well as based on personal experiences, they are unlikely to be successful. Such strategies may be unsuccessful as generalised approaches are unlikely to work for a specific situation, context and due to not taking individual differences into account (Cox,

1987). One should be aware of the context to understand coping methodology used Lazarus and Folkman (1984) identified two different types of coping. They are problem focused and emotion focused coping. While the problem focused coping attempts to address the source of stress and eliminate or minimise the stress, the emotion focused coping is aimed at reducing the emotional distress. Apart from the effort by Lazarus and Folkman there have been many attempts to categorise coping strategies (Ex. Skinner *et al.*, 2003).

It is important to consider the individual differences when it comes to coping. It is possible that people have their own ways of coping or dispositions when it comes to stressful encounters. Further, certain personal characteristics may lead individuals to approach stress in particular ways (Carver, Weintraub and Scheier, 1989). This is in contrast to dynamic mechanism of appraisal and reappraisal of each situation and coming up with a coping mechanism as specified by Lazarus and Folkman. Study done by Carver, Weintraub and Scheier (1989) produced results indicating that type A behaviour is associated with problem focused coping. The results of a study involving 3105 individuals, showed that some of the work-related stress factors and bullying were amplified by the use of emotion focused coping (Van den Brande *et al.*, 2017).

2.10 Theoretical framework

Occupational stress is defined as “ the process through which employees perceive, appraise, and respond to adverse or challenging job demands at work “ (Frese and Zapf, 1988). The definition encompasses two key elements, namely organizational stressors and strains. Occupational stressors are considered as stress producing environmental circumstances (Beehr and McGrath, 1992). The responses to the stressors that result in harm to themselves are known as strains (Cooper, 1998). This definition of stress considers it as a reaction to certain conditions or

events. While the perspective of stress being considered as a reaction remains the dominant position, alternative definitions exist.

The person-environment fit approach recognizes the stress as a result of the misfit between the person and the environment (Cooper, 1998; Edwards and Cooper, 1990). In identifying the misfit, the theory clearly distances itself from attributing the stress either to the individual or the environment alone. It merely is a case of a misfit. This misfit or lack of correspondence may result in two ways (Cooper, 1998). Firstly, It can be a result of the differences that exist between the demands from the environment and the abilities of a person. Secondly, it can be a mismatch between the needs of a person and the supplies in the environment. The theory recognizes the differences among individuals as the abilities and needs of the individuals are not same. However, testing the theory poses many challenges. The theory does not specify the contents of the demand and the abilities to be evaluated. In addition, the consolidation of several areas to indexes to represent either demand of ability poses many issues related to interpretation. Consequently, it is not possible to identify specific relationship to strain. The theory identifies the importance of personal characteristics in the stressor – strain relationship.

The Karasek (1979) demand-control model of stress remains the model that has been most widely used. The fundamental principle of the model is based on the acceptance that the jobs with high demand and low control result in high levels of strain. De Lange *et al.* (2003) noted that the past research using the demand-control model as the theoretical foundation had been inconsistent in their findings. They attributed it to the disagreement in the way to test the model. This has lead to the use of different measures for the demand, control and strain. De Lange *et al.* (2003) noted that the research done in the areas of high demand and low control/job latitude consisted of two theoretical premises. While some supported the additive perspective where it

was found that both demand and job latitude influenced the strain independently, others observed that the job latitude acted as a buffer strengthening the relationship of demand with strain. Perrewe and Ganster (2010) noted that a large number of research that used the demand-control model had focused on the effects of “high-strain” jobs. High majority of apparel industry factory workers are working in the production lines. While they are given difficult to meet production targets, they have little or no control over how the production is done. While this makes the demand-control model a suitable theoretical foundation for the present project, it suffers from the lack of clear content definitions for demand and control.

Demerouti (2001) extended the demand-control model. In a research done involving insurance agents, he established that high work pace coupled with insufficient time and decision latitude resulted in burnout. Demerouti (2001) in his job demands resources model, divided the demands of the occupation to physical, social and organizational aspects. The job demands included physical workload, time pressure, recipient contact, physical environment and shift work. The job resources included feedback, rewards, job control, participation, job security and supervisor support. The model focuses on the notion of burnout.

Burnout is defined as a prolonged response to chronic emotional and interpersonal stressors on the job and it is usually associated with exhaustion, cynicism and the detachment from the job (Maslach, Schaufeli, and Leiter, 2001). Burnout is associated with some form of withdrawal from the job. The withdrawal can take many forms including job dissatisfaction, absenteeism, turnover and lack of commitment. The demands resources model has generated more consistent results compared to demand-control model. This may be due to the specific form of demands being used with specific resources to predict strain. Apparel industry is well known for work

overload and inter-personal issues, specially with supervisors. This provides the required environment for possible emotional exhaustion, a key dimension of the burnout.

Recent researches on occupational stress have considered the possible impact of individual differences. Johnson and Hall (1988) claimed that social support assist in coping with the consequences of high-strain jobs. Perrewe and Ganster (2010) noted several other variables could be considered to improve the reliability of the Karasek's demands-control model. They are proactive personality, coping, self-efficacy and locus of control.

Perrewe and Ganster (2010) developed a taxonomy of work stressors. They used the categorization of Jex's and a framework provided by National Institute for Occupational safety and Health. The eight categories are work role stressors, work overload, situational constraints, job control, social characteristics of the workplace, career related concerns, job conditions and acute stressors in the workplace.

Michie (2002) and Murphy (1995) described workplace stress under five categories. They are Intrinsic to job role or factors unique to the job, role within the organization, career development, interpersonal work relationships and organizational structure/climate.

Arguably, the factors belong to the first category are the most important. Many factors captured in the first category are linked with the sweatshop conditions associated with apparel industry. They include long or extensive working hours, work overload, toxic work environments and time pressure (Colligan and Higgins, 2006; Michie, 2002). The toxic environments are known for relentless demands, ruthlessness and extreme pressure (Macklem, 2005), the conditions that are highly associated with workplace stress. According to Hsiao and Barak (2014) most of the workers in apparel factories are involved in low skilled jobs that are inflexible with little job

control. This lack of job control is another factors causing stress among workers (Michie, 2002). Melo Junior (2012) noted that Apparel industry employs large number of machine operators whose work is highly repetitive. The Cooper and Payne (1988) identified high-paced and repetitive work as a key reason for work stress. Consequently, the following factors may cause stress

- Extensive working hours.
- Work overload
- Toxic work environment
- Inflexibility
- Lack of job control
- Repetitive work

The increased competitiveness in the apparel industry has forced the manufacturers to ensure that the deadlines for shipment are met while adhering to the customer demands (Mahmud, Mahbubur and Nafis, 2011). This has resulted in time pressure. Frequent changes of styles, which is a result of the shift from a mass manufacturing to the production of limited quantities of a given style (Bailey,1993) adds to the time pressure. The design to delivery cycles had got shortened. These changes to industry are likely to have resulted in time pressure and role ambiguity that may cause stress.

- Time pressure
- Role ambiguity

As most of the workers in a apparel factory are machine operators, the factory workers have very limited opportunity for promotions, limiting their career development. Further, the fluctuating demands have resulted in low job security. This adds following possible factors.

- Lack of growth opportunity
- Low job security

Interpersonal work relationship is another category of importance in apparel industry. The industry attempts to overcome the issues related to worker abuse, harassment and discrimination through the introduction of code of conducts (Emmelhainz and Adams, 1999). Despite the effort taken, poor relationship is noted among the supervisors and factory workers. Tepper (2000) established that the abusive supervisory behaviour caused distress. Following possible factors are added.

- Poor relationship with bosses
- Abusive supervision

Lack of effective consultation and financial difficulties may be possible stress factors (Michie, 2002) applicable in the apparel industry.

- Lack of effective consultation
- Financial difficulties

There are many implications of the stress. One critical factor that would be studied in this research is the work family conflict (WFC). Work overload is considered as the primary reason for Work-family conflict (WFC) (Linzer *et al.*, 2002, Major, Klein and Ehrhart, 2002). The apparel industry employs large number of workers in factories and most of the jobs can be

considered as low skilled. Hsiao and Barak (2014) noted that these jobs are inflexible with little job control and prosper conditions leading to strains in work and family roles.

- Work Family Conflict

Another important aspect is the negative health, psychological and physical impacts (Shirey, Ebright and McDaniel, 2008) resulting from work related stress. Melo Junior (2012) noted that the repetitive work in apparel industry workers and machine operators in particular has lead to diseases, such as musculoskeletal disorders (MSDs).

- Negative health/MSD

Further, it has been found that stress lead to absenteeism and turnover (Ho,1997; Manning and Osland, 1989). That is to say

- Absenteeism is positively associated with workplace stress.
- Turnover is positively associated with workplace stress.

In order to identify the impact of Type A behavior pattern the sample will be categorized based on the Bortner scale (Bortner, 1969 cited in Edwards, Baglioni, and Cooper, 1990). The differences among the group on each possible stress factor will be analyzed to identify possible actions to reduce stress among apparel workers in Sri Lanka.

The implications on the organization as well as the employees make it important that the work related stress issues are addressed. Michie (2002) noted that an organization should address these issues due to its long term economic interests. Further it will reduce turnover and absenteeism, sickness, and accidents while increasing the work performance and client satisfaction.

Based on the learning from the literature review, the following model of job stress is prepared and used in the present research.

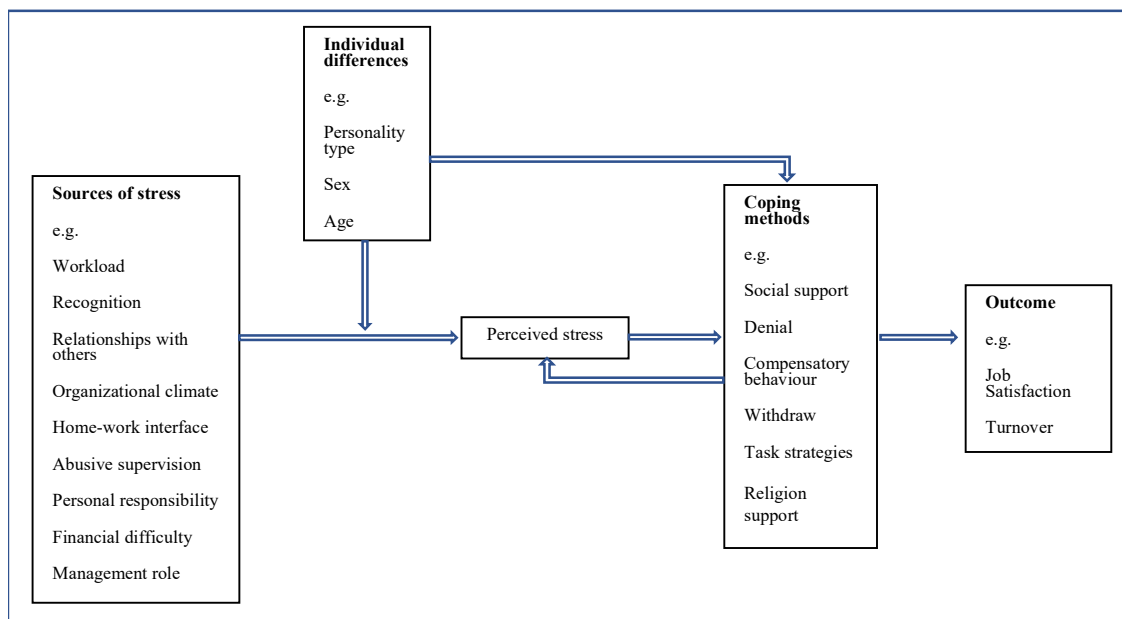


Figure 1. Model of job stress among apparel factory workers

The model recognizes the role of individual differences on perceiving stress and deciding on the coping methods. The coping methods used by an individual may in turn affect how stress is perceived.

Chapter 3 Methodology

The present study used participatory action research (PAR) as the research methodology. The design is cross-sectional. The purpose of this research is to identify the factors causing stress among employees in apparel factories in Sri Lanka, the impacts of stress on employees and the possible interventions to remedy these. Instruments that were adopted from existing standard instruments were used to measure stress, strain and coping. They were modified to ensure the suitability for the local context. The empirical relationships among variables were used to validate the hypothesis. The researched participated in modifying the instruments to meet the contextual situation contributing their practical knowledge.

This chapter begins with an introduction to the ontology, epistemology and the methodological issues in the area of occupational research. It proceeds to introduce Participatory Action Research (PAR) and its suitability as an Action research approach to research in the areas of stress and coping. This is followed by an explanation of the positionality of the researcher. The subsequent section of the chapter describes the use of mixed methods in the research and the selection criteria of the sample. The final section discusses the measures used in the study.

3.1 Ontology

The present research is based on the principles of PAR (Participatory Action Research). The PAR process will be described later in the chapter. Action research (AR) is value laden, morally committed and built on the democratic principles of dialogue and inclusion. It values subjectivity and aims at doing good to the community. All humans have values based on their beliefs, culture,

race, religion, profession etc. A researcher brings these values with him or her to the research. This fact is fully acknowledged by action research. In contrast, traditional research takes the position that the researcher is capable of being an outsider to a context and conduct value free research. Action Research in general and Participatory action research in particular, aims at the co-generation of knowledge. In that a research is done with the participation of individuals from different cultures and backgrounds leading to the question, 'whose values are to be considered?'. A democratic approach on deciding which values to be considered on conducting a research is taken. It is expected that the researcher as well as the local participants discuss and negotiate a basic set of values that respects core human values. Once agreed, everyone should be committed to the agreed set of values. During the course of the research, the researcher has to consider everything in relation to others and everything else in the context. During this process, the researcher influences the others and in turn get influenced by the ideas of the others. Dialogue and negotiation are inherent components of action research. However, the inclusion of the others is more aspirational than realised (Habermas, 1998) as it is difficult to accommodate the views of all in a study.

3.2 Epistemology

Epistemology refers to how knowledge is created, acquired and understood. It includes the verification of the validity of the knowledge acquired. The traditional researchers considered knowledge as certain and could be found by adopting specific methodologies (Berlin, 1998). AR deviates from the approach of the traditional researchers. AR considers that knowledge is uncertain and ambiguous (Berlin, 1998). While AR accepts that there is knowledge that is out there to be discovered, it believes that the knowledge is created as well. Further AR takes the position that knowledge can change with time and get modified. Knowledge is not certain. AR

considers the reality as interconnected, dynamic and multifaceted (Greenwood and Levin, 2006). Reality cannot be learned using a standard set of methods available at the disposal of the researcher, it is more complex. The validity of knowledge is measured in terms of the workability of an answer and not just using statistics on data acquired in a research.

There are three types of knowledge. They are know-that, know-how and personal knowledge (McNiff and Whitehead, 2006). Know-that refers to the rational knowledge which is usually fact-based. This form of knowledge assumes that knowledge is independent of the knower. This knowledge which is out there needs to be discovered by the researcher. Traditionally, universities and other educational institutes value this form of knowledge. The validity of such knowledge is established by means of empirical data. The second type of knowledge which is know-how is a procedural knowledge. It is about knowing how to do something. This form of knowledge is linked to practical know-how. The validity of knowledge is tested by proving the ability to carry out a given activity. For example how to drive. The third form of knowledge which is the personal knowledge is related to tacit knowledge (Polanyi, 1967), A tacit understanding is developed over a period of time usually being involved in the same function for a long period. Such knowledge is difficult to be articulated or rationalised. Action research does not prioritise knowing that over knowing how. While knowing that at times leads to knowing how, knowing 'how' may have implications on knowing 'that'. Consequently, action research is an approach that believes that both abstract knowledge and the knowledge acquired through practice should be combined in order to improve the present understanding of a situation. The traditional positivist approach is built on the notion that knowledge is certain and it is out there to be found. This means there is one clear answer to a question and this answer can be found by using a set of methodologies. While this may be valid and helpful in some form of sciences, the same may not

be so for social science. Humans are different and unpredictable. Their decisions can vary from time to time, from one context to another or for many other reasons. The problems in social science are much more complex and may have more than one answer. The selection of one alternative over another will lead to a different answer and a set of different actions from choosing a different alternative. In turn, the selected answer or the set of actions taken may generate a new set of questions that needs to be answered. At times, this may redefine the problem or provide a different perspective to the problem itself. Positivistic research assumes that the use of a research method such as 'scientific method' will lead to the right answer. In contrast, action research creates knowledge through dialogue among the participants of a research in addition to discovering the existing knowledge. Therefore, action research consists of both action and research components. The researcher is not kept at a higher level from the other participants. While the researcher brings the theoretical knowledge, research techniques, and knowledge on critical methods to evaluate the assumptions of the participants, the practical knowledge and the knowledge of the context of the participants is given equal importance. The knowledge is cogenerated. As the answer generated will have the contributions of the local participants, who considered the given context, the knowledge acquired is considered contextual in contrast to the traditional research. Consequently, the knowledge generated through action research is not claimed to be generalised. In order to apply knowledge to another context, it is important to compare the structures, processes and other similarities between the two contexts. This raises the question of how validity is measured in action research.

The traditional research measures validity using statistical methods applied on research data. Action research acknowledges the importance of the use of statistical methods. However, it adds

the workability of the solution to measure validity, that requires acceptance of the participants (Greenwood and Levin, 2006).

. In AR, the internal validity of a solution is measured by the participants who had direct involvement in finding the solution. They will determine whether the solution can be implemented in the given context and improve the present situation. However, its external validity becomes a more complex issue. In traditional research, the external validity is determined by others that were not involved in the project by going through the research outcomes and validating based on set of standards. As the knowledge generated by action research is very contextual, it is not viable for external experts to validate the findings. As a result, action research does not claim the generalization of the knowledge generated or application in another context without comparing the contexts.

There are five validity criteria applicable for action research. They are outcome, catalytic, democratic, process and dialogic validity (Herr and Anderson, 2005). Outcome validity refers to the degree of action taken in order to find a solution to the problem. This form of validity is in line with the notion of pragmatism advocated by John Dewey. Process validity is concerned with the ongoing problematization with a sequence of reflection cycles. Such processes ensure ongoing learning of individuals as well as the system. The use of triangulation where multiple methods are considered improves the process validity by ensuring the inclusion of multiple perspectives and multiple forms of data (Herr and Anderson, 2005). The democratic validity of an action research project can be improved with a higher degree of collaboration with the stakeholders while doing the research. This further encompasses the areas of problem being generated by the members of the community and the derived solution is appropriate for the given context. Catalytic validity refers to the extent which the conduct of the research encourages and

energises the participants towards improving their understanding of the problem and finding solutions. Finally, dialogic validity of an action research project refers to the validation of the methods used on findings by peers. The present research acknowledges the importance of traditional positivist forms of validity as well as the specific forms of validity for action research.

The epistemology of the action research has been influenced by the general systems theory (GST), pragmatic philosophy, conscientization (Freire, 1970) and Critical theory. The basic unit of the GST is the system. The systems are not mere representation of their structures. They consist of structures, processes, sequences and parameters. There are open and closed systems. The way they response to the stimulations from the environment differs based on whether they are closed or not, though in reality, all social systems are open systems. The systems do not exist in isolation and systems are inter-connected through their structures and processes. Systems are mutually dependent and affect each other. The General Systems Theory is related to AR since both take more holistic and integrated approach to the world. The researchers as well as participants are within the social systems and impact and change the social systems. In turn, the changes taking place in the social systems have impact on the researcher and the participants. The GST is linked to both AR and democratization as the objective of Action Research is to make social systems more open and increase the participation of all within the systems.

Pragmatism is based on the connections among the key concepts of the role of action in knowledge generation, democracy and community. The concept of pragmatism is heavily influenced by the contribution of John Dewey, whose contributions spanned over 70 years from 1880s. In the core of the pragmatism is the notion that any solution to a problem is only considered accurate or best for the given context based on the material available at the time. The change of time and material available may lead to different and better solutions. Even then the

solution is applicable to a given context. It may need change or may not be applicable in a different context at all. The pragmatism considers action as the cornerstone of the generation of knowledge. Action cannot be separated from knowledge generation. Knowledge generation is not an activity that is limited to thinking sitting on a chair and any knowledge is tested in action. The idea of the role of action in knowledge creation is a key principle of action research. The knowledge is not something that is reserved to the powerful outsiders. Everyone in a community is capable of contributing to knowledge creation. A society progresses democratically based on the actions and ongoing contribution from the increased participation of the people in it. The knowledge creation becomes more democratic process through the enhanced participation from the community. This can be enhanced by increasing the understanding of the community by educating them on the inquiry. Science and knowledge testing are ongoing processes of action and reflection (Dewey, 1991). Pragmatism promotes the diversity and conflict of opinions. The diversity and conflict among the participants make it viable to arrive at better answers and solutions to the problems. The increased participation and the contribution entails the discernment as whole in the society.

AR draws parallels with conscientization (Freire, 1970). Action is dependent on the political and historical contexts. The action taken on a problem shapes knowledge. It is important that such action leads to the attainment of the goals of the participants. Friere's unification of the theory and practice, critical reflection as well as the advocacy of the knowledge construction within oppressed community has had great influence in PAR. The critical theory recognizes the influence of power in actions taken by people in a given social, cultural, historical and political context (Collins, 1998).

This research takes the same epistemological position taken by Chiu (2003). It is based on the extended epistemology that experiential, prepositional and practical knowledge are equally important. In order to address the issues of powerless using PAR, the action taken should be based on the knowledge, experience and practice (Chiu, 2003).

3.3 Methodological issues in occupational stress research

Most of the research conducted on stress is cross-sectional and quantitative, mainly using self-completed questionnaires to collect information. These studies have used the scales based on the variables that had been used to assess the notion of stress, strain and coping. This approach, which is based on empirical relationships among the variables fails to recognize the dynamics of the process under study (Spicer, 1997), when used alone. It is required that the transactional nature of stress is captured in study in order to be benefitted, which requires different approach to study stress (Harris, 1991). In contrast to quantitative research, qualitative research tends to capture the richness of the notion of stress (Spicer, 1997).

The use of quantitative methods by outsiders is questioned for its inadequacy to address context-based stress related issues. Consequently, there has been a shift in focus by governments towards more user focus research, rather than those meant for journals (David, 2002). PAR addresses these issues as it is primarily based on user context and locals participate in the process of knowledge generation (Mikkelsen and Gunderson, 2003). The present study requires an approach that takes the local context into consideration for several reasons.

1. The culture of sri lanka and developing countries, in general is very much different from the culture of a developed country, making it difficult to apply the findings from developed countries directly to the local context.

2. The members of the community of apparel factory workers has an independent identity with shared values.

3.4 Action research

3.4.1 What is action research

Action research (AR) is defined as a form of social research conducted by a professional action researcher and stakeholders whose aim is to improve the situation of the participants (Greenwood, and Levin, 2006). The stakeholders may be a community or members representing an organization. Stinger(2014) provided a similar definition. In that action research was considered as “a systematic approach to investigation that enables people to find effective solutions to problems they confront in their everyday lives”.

Action research is bound to a given context. A real-life problem faced by an organization or community acts as the reason or basis for AR. Its aim is to improve the situation of the given context and not aimed at finding a general for all. In contrast to traditional research, AR is collaborative in nature, in that it takes into consideration the contributions made by the participating group. Consequently, AR cogenerate knowledge and encourages the diversity among the participants(stakeholders). It uses diversity as a strength to arrive at solutions or improving situations by making use of the wider experience and the evidence generated during the study. The collaborative meaning making process of AR leads to actions. The results of these actions are reflected on leading to new meanings and possible further actions. It is an evolving process. The validity of the knowledge generated in AR is measured in terms of the resulting improvement to the situation and the control for the participants. (Greenwood and Levin, 2006, p63; Reason and Bradbury , 2008, pp. 3–4) .

The participatory nature of the action research is of key importance. This is a social process that involves the stakeholders of a project (Hinchey, 2008; Kemmis and McTaggart, 2007). AR process is cyclical. This action, reflection cycle consists of observation, reflection, action, evaluation and modification. Each cycle aims to increase the understanding of the original problem (Herr and Anderson, 2005; Stringer, 2014).

3.4.2 Objectives of action research

AR has two main components. Action and research. The action component deals with improving the initial situation of an organizations or community. The research component deals with knowledge generation.

The knowledge generated by AR is different from that of traditional research. AR does not completely distinguish the action from theory. It is concerned with the everyday knowledge that is based on action, reflection and tacit knowledge obtained having done a particular task for long years. In other words, knowledge generated by AR is based on practical reasoning, tacit knowledge and practical wisdom (Carr and Kemmis, 1985; Schwandt, 1997). As AR is concerned with improving an existing situation or finding an answer to a problem faced by an organization or a community, the knowledge generated is context bound. Such knowledge can be applied to another similar context. It is not aimed at generalized abstract theory formation as in the case of traditional research. This knowledge is co-generated by the participants.

3.4.3 Positionality in action research

AR differs from traditional researchers position of being an external, non involving party to a context. A researcher determines his position by questioning who he is with reference to the

participants of the research and the context of the research. While the traditional research assumes the position of a researcher as an outsider to the given context, AR shares different levels of crossing the border (Villenas, 1996). As a matter of fact the relationship of an Action researcher is more fluid and the position may even change several times during the research (Thompson and Gunter, 2011). The position of the researcher is of relevance as it affects the epistemological and methodological approach adopted by the researcher.

The position of an Action researcher can be described in six categories. They are insider, insider in relation with other insiders, insider in collaboration with outsiders, reciprocal collaboration, outsider in collaboration with insiders, outsider studies insiders. (Herr and Anderson, 2014).

3.4.4 Use of AR in stress and coping research

Several professional practices have been using AR widely. It is well established in education and teaching and teacher education in particular (Ellis and McNicholl, 2015). Health sector has been using AR in nurse education (McDonnell and McNiff, 2016). Among other areas, the application of AR is notable in business and management (Coghlan and Shani, 2016) and leadership studies (Branson et al., 2016; Davids and Waghid, 2017).

AR is an appropriate method when the researcher intends to improve an existing situation, when researcher wishes to understand what he is doing. AR requires some sort of intervention and reflect on the action. It is not appropriate to use AR when the researcher wants to establish a statistical relationship among variables to show cause and effect etc.

Occupational stress is dependent on many contextual factors. Hsiao and Mor Barak (2014) established that constantly increasing demand, role overload, lack of control over the tasks, lack of

support from supervisors and work family conflict caused stress among Mexican workers in a multinational factory. These factors are not universal and can be different from a place to place and from a company to another company. This contextual nature of stress is a core reason for the inability to develop a single model or theory that is applicable everywhere. If we are to further understand stress, we need to pay attention to the differences of the context and develop local theory that is applicable to the context. That will possibly lead to expand the present understanding of stress, thus contributing to a higher level of knowledge.

The capacity of the dominant and traditional research approaches have been questioned by researchers studying context and organizational dependent concepts such as stress (Naswall et al., 2008). Practitioners experienced the outsider knowledge as a “rhetoric of conclusions” (Clandinin and Connelly, 1995). This knowledge generated by the academic researchers lacked the real understanding of the context, history or the relationships among people. This outside knowledge lacked usefulness in real environments.

Consequently, it is noted that researchers are increasingly using Participatory Action Research (PAR) approaches to study stress that enables them to conduct context based research co-generating the knowledge with the participants (Mikkelsen and Gunderson, 2003).

It is important that the present research is not limited to adding knowledge to the existing knowledge. It is required that the research leads to better understanding of the stress in Sri Lankan apparel industry and provide possible ways to reduce stress. This will require a merge between the knowledge gathered in the research with critical thinking of the researcher and inform the stakeholders. AR is more appropriate methodology in achieving these objectives.

3.5 What is PAR

Action research is aimed at understanding the problems in the social settings and finding solutions to them (McKernan, 1988). In that it makes use of collaboration and critical reflection of the participants (McCutcheon and Jung, 1990). Such approach leads to the improvement of the practice and make it more efficient. The action researchers have traditionally focussed on analysing the problems as individuals or groups.

PAR (Participatory action research), which is a form of action research is more contextual than the traditional action research that focused on broader societal analysis (Brown and Tandon, 1983; de Schutter and Yopo, 1981). PAR is participatory, collaborative, emancipatory and reflexive (Kemmis and McTaggart, 2005). It is usual in PAR for local participants to be involved in the research, losing the meaning of subject and object or researcher and participant. The increased level of participation is the core feature of the PAR approach. While the extent of participation can vary from one study to another, it is not unusual for the local participants to be involved in all stages of the research cycle. The increased level of participation leads to improved democracy and reduce the stress level of the local participants of the research. The mode of participation can be co-option, compliance, consultation, corporation, co-learning or collective action (Cornwall, 1996). Co-option is the lowest level of participation by the local participants. It refers to the selection of representatives without power or input. The next level is the compliance. At this level tasks are assigned to the representatives. Yet, the agenda is decided by the researcher. At the level of consultation, the local opinion is obtained and the decision on action is taken by the researcher. The cooperation level reflects a joint effort where locals decide the priorities together with the researcher. However, the process is directed by the researcher. At the level of Co-learning the knowledge is shared by both parties in order to create new

knowledge and action plans are prepared together. At the final level local people create and mobilize action in the absence of an external researcher.

As is the case with all research using PAR, the level of participation by the participants kept changing during the present study. The highest level of participation was at the beginning of the research where the problem was defined and the methodology to be adopted was decided. The level of participation was consultation, where the opinion of the participants was obtained while the research decisions were taken by the researcher. The participants contributed with the contextual and practical knowledge to define the problem. Their contribution was important in identifying specific sources of stresses available in the apparel industry, that were used in the preparation of the instruments for data collection.

Collaboration is the next natural feature of PAR. Researchers should have some awareness of the local environment for them to know the individuals to get involved for discussions. This direct involvement of the researched entails more accurate analysis of the reality. The owners of the problem contribute through the local knowledge while the researchers contribute through their theoretical knowledge (Hughes, 2003; Selener, 1997).

The emancipatory nature of PAR is of importance. It helps social transformation. PAR is aimed at social justice and remove unjust and unfair social structures. PAR makes people look critically at current perceptions. It integrates theory and practice where both research and action become a single process (de Schutter and Yopo, 1981).

3.6 Why PAR

PAR is a research method that is often used where problems related to equity and oppression are studied (Hunter, Emerald, and Martin, 2013). It follows then that PAR is a suitable approach to for use in stress related research due to the high importance of the local context (Maureen et al., 2008). In saying this, it should be noted that the notion of stress may vary from one context to another (e.g. western to eastern culture and from developed economies to emerging economies).

The apparel industry in Sri Lanka is spread among many provinces of the country. The government has established free trade zones (FTZs) and most factories are located in these FTZs. There are 12 FTZs in Sri Lanka. While more than 85% of the employees in this industry are females, the total number of employees exceeds 340,000 (Sivananthiran, 2009). Sri Lanka is one of the largest apparel exporters in the world (Central Bank Of Sri Lanka, 2018).

As in the case of many other countries, the workers of these factories are primarily from remote villages. They are from low income families, with lesser education. The establishment of most of the apparel factories in Free Trade Zones has resulted in the formation of a separate subculture from the main culture of the country. Most of the females working in these factories are employed as machine operators in the production lines. The apparel industry is associated with sweatshop conditions (Emmelhainz and Adams, 1999) Extended working long hours, abusive supervisor behaviour and oppression are widely observed in the apparel industry (Ho, Powell and Volpp, 1996).

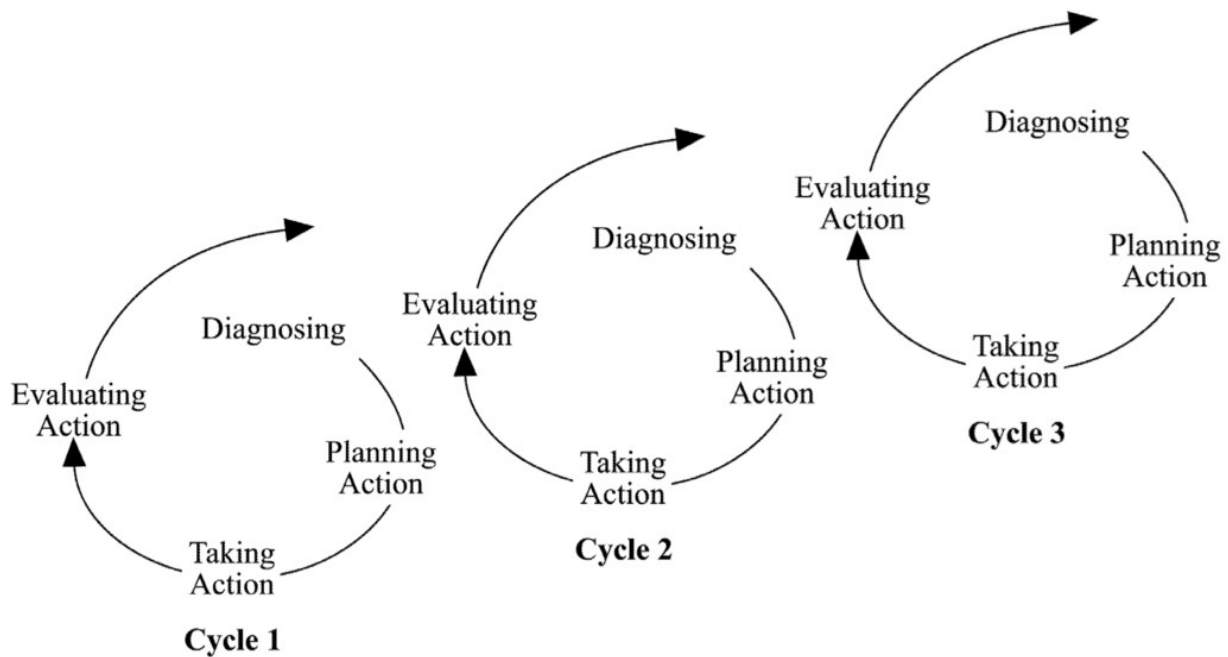
As a result of the above factors, the apparel industry in Sri Lanka offers the right conditions for the use of PAR. The local context is of high importance due to the formation of subculture and sweatshop conditions associated with it. The consideration of the local context to generate

knowledge, that is useful in solving local problems is not a strength attributed to the traditional research methods used in social science. The knowledge generated by the traditional research is aimed at generalizability and cannot be applied without modification to the context of the apparel industry in Sri Lanka. It is important to make use of the practical knowledge gained by those who had worked for a long time in the apparel industry. That knowledge on many occasions is reflected in action. PAR makes use of the theoretical or scientific knowledge as well as the practical knowledge. This entails the use of both types of knowledge in finding best solutions to the issues pertaining to the stress in Sri Lankan apparel industry. Further, PAR is aimed at improving the lives of the oppressed people. The present study provides an opportunity to help those who are oppressed, in line with the emancipation principles of PAR.

3.7 The PAR process

As with all Action Research projects, PAR is a cyclic process. The standard cycle by Kemmis and McTaggart (1987), which is made of a cycle of plan, act, observe and reflect is applicable for PAR. The PAR cycle consists of questioning of a particular problem, reflecting on the problem and investigating, developing an action plan, implementing and refining the plan (McIntyre, 2008). The main steps in a given action cycle are worded or described differently by different authors. The steps used by Coghlan and Brannick (2014) are different from Kemmis and McTaggart(1988). Coghlan and Brannick (2014) describe the cycle using the steps of constructing, planning action, taking action, evaluating action. The word ‘constructing’ is used to reflect that the task of establishing the issue’s core is constructed with the participation of the stakeholders. ‘Planning’ refers to working out possible actions that can improve the present situation. ‘Taking action’ encompasses the implementation of the plan action in a collaborative

manner. The final step of 'evaluating action' verifies whether the outcome was as intended. It further studies and a unintended outcome and reflect on the results of the action taken.



Spirals of Inquiry in AR by Coghlan and Brannick (2014, p.10)

The cycles of PAR consist of the activities such as problem definition, deciding on the methodology, data analysis and interpretation, defining interventions, implementation of the interventions and evaluation of the results. Despite having few standard steps, in reality, the PAR cycle is much more fluid and open. Due to the very nature of the contextuality of the PAR projects, the exact steps vary based on the outcome of the dialogue between the researcher and the local participants and specific nature of the problem. Based on the reflection on the problem and the results of the action, the researcher will make necessary adaptation while the study

progresses. The steps in each cycle are fluidly linked to each other and the cycle is linked to the next cycle as well. The steps in each cycle are associated with actions carried out in the cycle. In reality, the actions and the steps in a cycle are braided fluidly. The actions for the next cycle is an outcome of the reflection on the results of actions taken in the present cycle. This is further assisted by the increased understanding of the problem and the context. The increased understanding opens new windows that leads to possible actions that were not previously thought of. Consequently, the approach conducted during the study had to be revisited on several times with the progress of the study. The action carried out in each cycle is as follows.

3.7.1 Cycle 1

- Identifying the factors causing stress in the apparel factories, coping methods used by the factory workers and the impacts of stress on job satisfaction and intention to leave the job.
- Learn the fundamentals of PAR, theory of stress. Plus on the findings
- Preparation of a questionnaire in order to collect relevant information from a wider group of factory workers.
- Collaboratively reflect on the the identified sources of stress, coping methods and the prepared questionnaire.

3.7.2 Cycle 2

- Dissemination of the questionnaire among the factory workers, explaining the contents of the questionnaire and collecting the completed questionnaires.
- Entering the collected data into spreadsheets.
- Collaboratively analyse the data.

- Collaboratively reflect on the findings.

3.7.3 Cycle 3

- Present the findings from the cycle 1 to the management of a few selected factories.
- Conduct workshops to the workers of selected factories including workers from several categories. The workshops cover the areas such as causes for stress, its impact on individuals and the company, possible actions to reduce stress among factory workers.
- Assist on implementing programs prepared by the management of the selected factories in order to mitigate stress among the factory workers.
- Conduct discussions with volunteered workers from the above factories to understand the impact of changes made.
- Collaboratively reflect on the findings.

3.7.4 Cycle 4

- Interview factory managers and supervisors to understand the challenges faced in reducing workload and increasing salary.
- Collaboratively reflect on the complete PAR project.

3.8 Forms of participation by the team members in PAR

The PAR team for the present research consisted of 25 participants, They worked for different factories and were from different areas of operation. There were factory managers, supervisors, sewing machine operators, cutters and staff involved in other activities forming the PAR team. A

wider representation was required to ensure the adequate representation of the specific areas of operations in the apparel factories that entailed better understanding of the context. Wider participation increases the democratic and process validity of a PAR project. The level of participation of the participants in PAR projects exceeds that of other action research projects. In the case of PAR, the participants have shared responsibility on how the research is conceptualised, practised and presented to the outside world (McTaggart, 1997b). They collaborate in all stages of the research. Participatory action research provides an opportunity to the members of the community to come together and coparticipate in an effort to remake the practices. They have an opportunity to democratically express their intentions, values, experiences and understanding of the context. They are expected to learn the research process and gradually improve their research skills so that they can start finding solutions to their own problems. The participants of a PAR project play different roles in different stages of the project. During the present research at times they play the role of a focus group and in some other phases, played the role of a learning set. More importantly they were involved in being a part of a research team where they collaborated in the preparation of questionnaire, reflection on the research findings and designing the actions to be taken. Due to the very nature of the tasks performed by the team members, they are generally referred to as participants or team members in PAR projects. Action learning sets are usually formed by a group of people with the intention of mutual learning in order to improve a situation that is considered as significant enough to enable learning (Cumming and Hall, 2001). The learning set acts as a conduit for learning. Critical thinking and reflection are tools used in deepening understanding. The team acted as a learning set when initial sessions were conducted to teach the fundamentals of participatory action research, principles of stress and the basics of critical thinking and reflection.

Focus groups are generally considered as discussions that take place in order to explore a given issue. Some of the discussions that held initially to identify the opinion and how the participants perceived the stress in the apparel industry took the form of a focus group. Similar sessions were conducted to identify the actions to be taken in each action cycle.

All discussions of the team were based on democratic principles where everyone was given the opportunity to express their opinions. The critical dialogue led to a raised level of consciousness of the team members enabling critical reflection on the existing practice, personal beliefs and values. It is through this critical dialogue that the team deepened the understanding resulting in new action being taken with each action cycle.

3.9 Positionality in action research

Positionality in action research refers to the relationship of the researcher to the participants. In other words, who the researcher is in the given setting with reference to the participants and the context. In far edges of the continuum are insider and outsider positions. Insiders are usually practitioners who are interested in widening their understanding on their practice in order to solve a problem or improve on the situation (Anderson *et al.*, 2007; Coghlan and Brannick, 2001; Coghlan and Casey, 2001; Robinson and Kuan Lei, 2005). The practitioner becomes the researcher in these cases. This situation is very common in education. Teachers found the theoretical knowledge passed to them from the researchers from outside as non-practical and irrelevant. This prompted the teachers to study and research on their own profession, leading to insider research. The position of the researcher is not a straightforward determination in all occasions. A researcher studying the culture of a call centre may have once had worked as a call center agent, making it difficult to be considered as a complete outsider.

The middle part of the continuum reflects the collaborative studies jointly done by insiders and outsiders. Participatory action research can be positioned in the middle part. Overall, six positionalities have been found analysing existing studies. (Anderson and Jones, 2000). They are

1. Insider researcher studying his own practice
2. insider conducting the research in collaboration with other insiders
3. insider conducting the research in collaboration with outsider
4. reciprocal collaboration
5. outsider in collaboration with insider
6. outsider studies insider

Despite the categorization, the position of a researcher in a study is fluid and can change during the study (Thompson and Gunter, 2011). While the involvement from the participants can be high at the time of understanding the problem, it can get reduced at the final phase, when the findings from the research are presented. The level of involvement by the researcher and the participants at various stages is usually determined by the nature of the problem and the context. In the present research, the researcher acted as an outsider to the apparel industry. However, the participation level changed during phases of the research. The level of participation was high at initial problem definition and data gathering phases. There are many studies that used PAR conducted as outsiders that initiated research. Cahill (2005), McIntyre (1995), Nygreen (2006) and Mock (1999) are some studies that took the above approach.

3.10 Using mixed methods for broader understanding

This is a mixed methods study that uses sequential qualitative and quantitative methods. The use of mixed methods in order to study stress and coping may improve the quality of the research (Onwuegbuzie *et al.*, 2007). It is stated that the use of mixed methods would provide the necessary depth than the breadth required in understanding of a complex principles such as stress and coping. The use of quantitative methods enabled much wider coverage of the population as it was possible to obtain data from large numbers of factory workers by means of a questionnaire. The use of qualitative methods enabled an in-depth understanding of the findings. Use of the qualitative methods enhances the ability to capture the richness of data. Further the use of mixed methods improved the participation of the stakeholders in the PAR project by allowing the participants to get involved in the initial preparation of the questionnaire and planning for action and implementation. In addition, this provided the opportunity to present multiple perspectives at the levels of individual as well as the group. The qualitative observations provided a credible interpretation of the findings (Kazudin, 2006).

Participatory action research differ from the subjective approach where the practice is seen from inside and the objective approach where the practice is seen from outside. PAR takes the reflective and dialectical position of critical social science (Kemmis and McTaggart, 2005). This enables PAR researchers to benefit from the use of both quantitative and qualitative methods. PAR researchers are free to use appropriate methods based on the contextual requirement. Participatory action researchers differ from one sidedly quantitative or qualitative researches. On the one hand, PAR reserchers don't accept that action can only be understood using qualitative methods. On the other hand, PAR reserchers consider quantitative data as possible crude approximations of how participants understand and feel. PAR researchers avoid considering

quantitative data and statistical methods as the only rigorous, valid and reliable means of understanding action (Kemmis and McTaggart, 2005).

The present research was conducted as a sequence of mix design research. The second strand of the research was based on the outcome of the first strand. The instruments required for the data collection of the second strand were developed in the first strand. The first strand was qualitative where the participants of the PAR team collaboratively identified possible causes of stress among the factory workers in the apparel industry. It further identified the coping with that used by the workers.

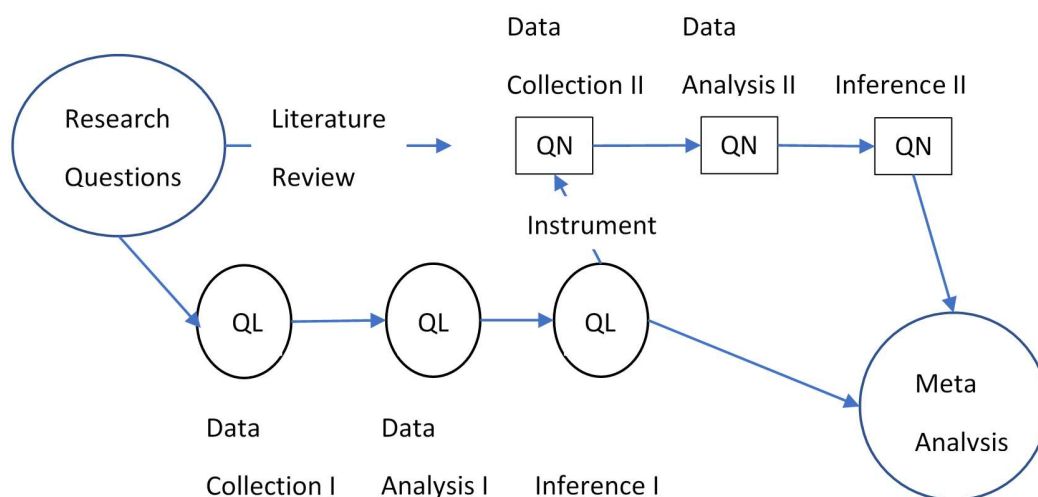


Figure : Sequential mixed methods design with two strands where the finding of the strand I acts as an input to the strands II. (QL = Qualitative, QN= Quantitative)

The research was conducted based on the principles of participatory action research (PAR). The researcher invited a set of participants to explore the issue of stress in the apparel industry.

Twenty five participants were selected for the PAR project voluntarily based on their availability. The participants consisted of managers, supervisors, cutters, sewing machine operators and support services members. They were from different factories in different companies. A total of eleven group discussions were held with the 25 participants that formed the group. Not all the participants were present for all the sessions. On average 15 team members participated at a given session. The discussions were held at a factory, that supported the project. The management provided the necessary facilities required for all the meetings. Before the discussions were started, a workshop was conducted for all participants. It covered the objectives of the PAR project, how such a project was done and an introduction to 'stress', 'coping; and related areas. Subsequent to the workshop, a set of objectives/actions was set for the initial discussions. They were

- Obtain a good understanding about the jobs at apparel factories and the environment.
- Collect information relevant to the sources of stress experienced by the employees in the apparel factories.
- Understand the consequences of stress and coping methods adopted by the employees to mitigate the impact of stress.
- Collaboratively analyze the existing instruments that were reviewed in literature review that were intended to measure stress, coping methods, job satisfaction, intention to leave and personality type and design a questionnaire to collect information from apparel factory employees.
- Collaboratively reflect on the the identified sources of stress, coping methods and the prepared questionnaire.

The participants were given the opportunity to democratically participate in the discussions. During the discussions held, the participants shared their background information including family, education, the past experience, the present organization and their perception on stress, implications, coping, job satisfaction and individual differences. During these sessions each participant was asked to describe the factors that they believed caused stress and to share some of the experiences they had related to these factors. Transcript of all the discussions were prepared for content analysis.

The use of qualitative data entailed the capturing of the attitudes, feelings and the beliefs of the participants about factors causing stress, its impact and coping. By analysing the collected qualitative information, it was possible to obtain an in-depth understanding of stress experienced by the apparel factory workers. In order to create a general picture of stress perceived by the factory workers, it was required to consolidate the information captured in transcripts of the discussions to a manageable volume. This could be achieved by coding the content of the transcripts. The four step process of Giorgi's (1981, p10) was followed on analysing data.

The transcripts of the discussions were analysed in order to generate themes and categories. The themes were generated from the transcripts in an inductive process. The segments of data having a particular meaning were identified having gone through the text several times. The segments were given specific codes. Each time a segment similar in meaning was identified, it was given the same code as before. The specific differences were identified with the existing codes before adding any new code. A table of codes and the generic meaning was kept separately for this purpose. The process was iterative. A preliminary analysis was conducted based on the first discussion with the participants. While the themes and categories identified by that time was very limited, it provided us useful input in order to look for the additional information that we may

have missed. It further provided information on the areas to be focused on and on the direction for future sessions. More codes were added with discussions moving forward.

There were many challenges in the coding process. Firstly, the discussions were held in the local language. This required the initial discussion to be translated to English. In many cases, the local language had several words that would get translated to a single English word. There were occasions where the idea given by the statements in local language had to be translated without losing the core meaning, although this meant that the translation was not direct. The standard terms used in the previous studies were used in the translation. The transcript analysis was done subsequent to this activity. Secondly, a given segment of text had many themes within the segment in many instances. Consequently, some segments of text were considered under multiple codes.

Apart from the inductive process where codes were generated from the transcripts, a deductive process of code generation based on the findings of the literature survey was used. Wherever possible, the same terms found in the literature survey were used for the themes identified during the analysis. The themes identified from the codes were then grouped under broader categories based on higher level of meaning. The classifications identified during the literature survey was used to identify the broader categories. The identified themes, the segments that were used to identify the themes and the higher-level classification were presented back to the participants. Further, a comparison between the findings of the present research and sources of stress and coping methods identified from the previous research was presented. They confirmed that the meaning was not lost and their ideas were properly captured and represented.

Not every member in the group contributed to every theme. Some were relatively silent while some other were more articulate. To avoid a situation where the opinion of only few members was represented, a count on how many agreed for the themes and how many had dissenting views were recorded. However, they were never meant as measurements of the importance of a theme or a viewpoint. Yet, they added to the richness of data.

A questionnaire to be used to collect information from a larger set of representatives from the population was prepared by the PAR team. The information generated from the analysis of the transcripts and the literature survey was used to prepare the questionnaire. This questionnaire acted as the input for the quantitative strand which was the second action cycle of the research. The collected data was statistically analysed and critically reflected on by the participants. Subsequently, the findings from the quantitative and qualitative strands were compared, contrasted and integrated through critical dialogue and reflection in order to obtain a much clearer and comprehensive understanding. The inferences from the qualitative stage of the research and the quantitative stage of the research were integrated at the stage of interpretation of the results. By integrating the inferences of the qualitative data analysis and quantitative data analysis, it was possible to create a holistic perspective of the problem and enhance the understating of the problem. It further informed the action that would be taken to alleviate the problem and plan the next steps. The integration of quantitative and qualitative strands was a key step in the research. The point of interface that joined the two methods was primarily the results integration stage. The results were discussed in a complimentary manner. In other words, the qualitative data was primarily used for the preparation of the questionnaire and meaning making of the research findings.

3.11 Method sample and procedure

3.11.1 Participants

Two hundred and fifty employees from apparel factories were requested to complete questionnaires in their own time. The previous research done on stress among apparel factory workers had used 50-100 questionnaires. It was intended to improve the validity by increasing the participants. The filled questionnaires were collected from them. They were not paid for the participation. Employees from different factories participated for the research. The sample can be considered as representative for several reasons. Firstly, the apparel factories are mostly located in Free Trade Zones and the culture and the operational mechanisms of all are mostly similar. The employees are mostly from villages and they stay at boarding houses close to the factories. In a boarding house, there are boarders from multiple factories. As participants were selected from the boarding houses, the sample contained employees from many factories. In order to make the sample more representative, boarding houses located closer to different free trade zones were considered. The 250 questionnaires issued resulted in 155 usable questionnaires returned for analysis. The sample size is large compared to similar research done in the past. In a study done in Denmark on the relationship between stress and repetitive work in a textile plants, 96 female sewing machine operators from three different textile plants were used as participants. In addition, 46 females were used as a control group (Hansen *et al.*, 2003). Another study conducted in Mexico, used a sample of 168 workers to examine the relationship among job stressors, support, and work-family conflict (Hsiao and Barak, 2014). A number of 192 textile workers participated in a stress validation research done in Democratic Republic of Congo (Kitronza *et al.*, 2015).

3.11.2 Measures

The stress process captures some main constructs, these being stressors, strain and coping. Events or conditions in the work environment that produce stress are called stressors (Beehr, 1998). The responses from individuals to such stimuli when they consider such stimuli as harmful are called strains. Stress is a generic term that is used in situations where stressors and strains are prevalent (Beehr, 1998).

The present research will validate whether factors such as heavy workload, abusive supervision and workplace incivility, organizational climate, home-work interface and low salary will act as stressors in the apparel factories. The study will further validate whether stress leads to absenteeism and turnover.

Despite many researchers operationalizing the constructs of stress and coping, a lack of consistency is observed (DeLongis and Holtzman, 2005). This may be due to different definitions being used for stress and coping.

In order to measure stress, the previous work done in the area was considered. This includes the Job Content Questionnaire (Karasek, 1988) and the Occupational Stress Indicator (OSI) (Cooper *et al.*, 1998). The underlying constructs of stress and coping of OSI is consistent with the definition used in the present research. The OSI was developed by Cooper, Sloan, and Williams (1988) in the form of a self-completion questionnaire. It captures the interrelated areas related to stress such as sources of job pressure, individual characteristics and the effects of stress and coping strategies. Consequently, OSI encompasses all three constructs in the stress process. The original version had more than 200 questions and used a six point Likert scale. OSI is used worldwide and has been tested for its validity and the evidence for validity provided by

Robertson, Cooper and Williams (1990). Further evidence for validity was provided by Langan-Fox and Poole (1995) and Rees and Cooper (1991). Williams (1996) validated OSI for over 20,000 participants and 100 companies. The validity of the underlying concepts for the development was established by Robertson, Cooper, and Williams (1990). The areas covered by OSI includes perceived sources of job stress (61 items), job satisfaction(22 items), mental and physical health(16 items), Type A behaviour (14 items), locus of control(12 items) and coping(28 items). The instrument constitutes of large number of questions on each area. The original OSI was criticized for its length and the complexity leading to a revised version. The revised version, Pressure Management Indicator (PMI), is much shorter and practical (Williams and Copper, 1996) and is limited to 120 questions.

The existing instruments cannot be used in their original form for the present study. Firstly, OSI and PMI are generic instruments not tailor made to Sri Lanka and the Sri Lankan apparel industry in particular. Secondly, the instruments are too lengthy and difficult to be practically used as participants tend not to concentrate on the full questionnaire. Thirdly, the instruments have not captured or elaborated on some of the relevant areas for the apparel industry.

The instruments were modified by the researcher taking into consideration the context of the apparel industry of Sri Lanka. Some areas were added to reflect stressors related to abusive supervision, toxic environment etc. In case of coping, areas related to coping methods specific to Sri Lanka was added (e.g. a high number of employees in Sri Lanka being Buddhists, they use coping methods related to Buddhism and local culture).

In order to to modify the instruments information was gathered from the PAR team that consisted of 25 participants. Information related to perceived sources of stress and how they cope with the

stress was gathered. The participants openly discussed their experiences and the information was analysed to and the themes and categories with the components of transcripts that helped identification of the themes were presented to the team. The findings were compared and contrasted with the learning from the previous research findings. The questionnaire was designed including several areas that were not captured in the original PMI. The additions included abusive supervision and workplace incivility as a possible factor causing stress. Religion based coping was added as a possible coping method.

The apparel industry is generally considered as associated with sweatshop conditions (Emmelhainz and Adams, 1999). The level of abusive supervision experienced in the industry is believed to be much higher than other industries. It is established that as much as 10% of the employees are victims of abusive supervision (Tepper *et al.*, 2017). Most of the factory workers in Sri Lanka are Buddhists. Internally targeted attempts to control stress is evident in coping methods used by the Buddhist influenced beliefs (Tweed *et al.*, 2004). The questionnaire is comprised of five sections. (1) demographic questions (2) factors causing stress (3) coping methods (4) job satisfaction (5) type A behaviour questionnaire (6) intention to leave the job. The modified instruments, with modifications highlighted, are shown at Appendix 1.

The Bortner scale (Bortner, 1969), an instrument used to measure Type A behavior patterns, was used to categorize the sample based on the personal behavior pattern. Type A behavior pattern (TABP) is an action-emotion complex (Rosenman, 1977). The characteristics such as impatience, time urgency, striving for achievement, aggressiveness and many others are associated with TABP.

Four instruments were considered to measure Type A behavior. They are OSI Type A behavior section, Bortner scale (Bortner, 1969), the Jenkins Activity Survey (JAS; Jenkins, Rosenman, and Friedman, 1967) and the Framingham scale (Haynes, Levine, Scotch, Feinleib, and Kannel, 1978). Low level of correlation has been found among Bortner, JAS and Framingham scales due to possible differences in their underlying constructs (Edwards, Baglioni, and Cooper, 1991). Four main factors are included in the Bortner scale. They are time urgency, hard-driving behaviour, competitiveness, and expressiveness (Pichot *et al.*, 1977). In contrast, the factor analysis of JAS has identified that the instrument reflects speed, impatience, job involvement, hard driving and competitiveness. A high level of correlation has been observed between Bortner scale and Type A behaviour part of OSI. Consequently, Bortner scale was used to analyse personality. Bortner scale, which was originally developed in western culture requires adaptation to be used in the local culture (Wang *et al.*, 2012). However, the critical dialogue by the participants resulted in adhering to the original Bortner scale that consists of 14 questions without any modification.

Chapter 4 Results

This chapter provides the results of the research. The chapter is primarily divided into three sections. It begins with the process carried out on collecting qualitative data to prepare the questionnaire that forms the cycle 1 of the research. The second section, which covers the cycle 2 describes the sample and the variables used in the statistical analysis. This is followed by results of the statistical analysis.

4.1 Cycle 1

The research started with a workshop held for all 25 participants of the PAR team. The participants were trained on the fundamentals of PAR as well as the basic principles of stress and coping. The entry process and the nature of participation by the PAR team members are discussed in the reflection chapter.

As explained in the methodology section, all the discussions with the PAR team were documented. Themes related to the factors causing stress and coping methods were identified using the transcripts of the discussions and the identified themes were divided into categories based on the findings from the literature review and the critical dialogue of the PAR team. The parts of the transcripts used to identify the themes were presented back to the team. A comparison between the findings of the present research and sources of stress and coping methods identified from the previous research was presented to the PAR team to solicit their input to plan the actions to be taken. Samples of the themes and supporting quotes are given in the Table 4.1 and Table 4.2.

Table 4.1 Sample of themes and supporting quote(s) of factors causing stress		
Category	Theme	Example quote(s)
Workload	Long hours	<p>“I have been working for this factory for three years. When we have orders with tough deadlines, we are forced to work very long hours. At times we work 16 hours at a stretch. They keep records away from the system to avoid any legal issue.”</p> <p>“At least three days per week, I work for more than 10 hours. We are short of machine operators and all are forced to work extra hours. “</p>
	Deadlines and time pressure	<p>“The most difficult aspect of the job is the time pressure. The supervisors push us to work at a speed that is difficult to sustain. They are only worried about having the production completed by the deadline.”</p>
Abusive supervision	Verbal aggression	<p>“We get scolded by the supervisors even for the smallest mistake. Using filth by a supervisor is not uncommon and they think they have the right to do so.”</p>
	Physical aggression	<p>“When I was scolded by the supervisor for a mistake done by someone else, I told him it was not my responsibility. He pushed me while I was seated in my chair. I fell from the chair. Others were scared even to help me to get up.”</p>

Table 4.2 Sample of themes and supporting quote(s)		
Category	Theme	Example quote(s)
Compensatory behaviour	Hobbies and pastimes	<p>“Whenever, I get little free time I listen to music. It helps to forget about work life. “</p>
	Activities outside work	<p>“I like cooking and I ensure that I cook for my family before I come to work. It makes me feel much better when I come to work.”</p>
Religion support	Religious practices	<p>“I am a buddhist. I observe sil on every poya day. It helps me to calm myself down and face the difficult situations at office.”</p> <p>“Going to the temple every weekend with my husband helps me to settle my mind. I meet many others with issues in life and understand I am not alone.”</p>

	Accept through religious concepts	“I always think that I have to work in this factory and go through these hardships and suffering due to my past karma. I tolerate it thinking that it is what I earned due to my deeds from my past life.”

The PAR team critically reflected on the findings from the sessions conducted. A matrix was prepared to assess the level of agreement of the PAR team members on the themes and categories established. A sample is provided in Table 4.3.

Table 4.3 Sample of the level of agreement by the participants							
	Participant						
Theme	1	2	3	4	5	6	...
Verbal aggression by the supervisor	A	AS	A	N	AS	A	
Physical aggression by the supervisor	N	A	A	D	AS	A	

A = Indicated agreement

AS = Agreed and contributed by providing statement or example

N = Neither agreed nor disagreed

D = Indicated disagreement

DS = Disagreed and contributed by providing statement or example

The matrix was useful in computing many counts. E.g. The table provided that out of 20 participants 16 agreed that verbal aggression was an issue. 40% of the participants agreed on the presence of physical aggression by the supervisors.

The purpose of the matrix was not to provide statistical information or generate a result that could directly be compared with the output from the quantitative analysis. The table did not provide adequate information on the level of agreement. The statement or examples by a lesser

number of participants is not an accurate measuremet to decide on the importance of a theme. However, it provided a direction to which areas to be focused on and added to the overall understanding of the context.

The themes identified in the discussions were compared and contrasted with the findings of the literature review and the contents of the existing instruments. In particular the findings were compared against the contents of instruments to measure stress such as OSI and PMI. There were several categories and themes that emerged through the analysis of the transcripts, that were not covered in OSI and PMI. Abusive supervision and workplace incivility were two sources of pressure identified as additions and were of special importance to the context. In the area of coping, the participants identified ‘understanding and accepting the situation through religious concepts such as karma’ as a main strategy of coping, which was not captured in OSI and PMI. The other themes and categories were same as those already captured in widely used instruments to measure stress such as OSI and PMI. Although, not captured in the above instruments abusive supervision is considered as part of sweatshop conditions (Emmelhainz and Adams, 1999) prevailing in the apparel industry. The new addition in the area of coping, the religion based coping was observed in the literature review. Internally targeted attempts to control stress is evident in coping methods used by Buddhist influenced beliefs (Tweed *et al.* ,2004). It is noted that a high majority of the apparel factory workers are Buddhists.

It was important the emerging findings from the qualitative data analysis, literature review and existing instruments were reflected on in an integrated manner. The continuous soliciting of the participants feedback ensured that their perspectives and the importance of local context was kept intact. There were differences in opinion among the participants and the diversity of the participants was a strong point in deepening the understanding in the areas of stressors and

coping strategies. The PAR team discussed what action should be taken to improve the present situation of the apparel factory workers. The team was of the collective opinion that the number of participants should be increased and information should be collected from a larger set of representatives taking into consideration that the importance of specific sources of stress and coping methods may differ when the opinion of a larger sample was considered. The PAR team agreed that a questionnaire should be prepared to collect information from a larger set of representatives from the population. The questionnaire was prepared based on the contributions made by the participants with the objectives of the research in mind. For e.g. the original Occupational Stress Indicator (OSI) developed by Cooper, Sloan, and Williams (1988) and the shortened for that improved the original OSI, the Pressure Management Indicator (PMI) developed by Williams and Cooper (1996) did not include any questions related to workplace incivility or abusive supervision. The prepared questionnaire for the present research captured five questions covering the areas of abusive supervision and workplace incivility. Despite the non-coverage of some areas by the existing instruments and those agreed that most of the items were already captured. Consequently, it was decided to modify the existing where relevant and use the modified instruments in order to collect necessary information for the research. The methodology chapter covered the measures used, the details of the original instruments and the changes done.

The questionnaire is comprised of several sections. (1) demographic questions covering areas such as sex, age, period in the present job, education, salary, job, number of hours worked (2) factors causing stress (3) coping methods (4) job satisfaction (5) type A behaviour questionnaire (6) intention to leave the job

Action cycle 1 presented several challenges. The participants used different words and expressions to mean the same thing or area, For example when the abusive supervision was

described by the participants words such as offensive, insulting, inhuman, abrasive, threatening, cruel and belittling were used. I positioned the meaning within the existing literature of the area of stress where possible. In order to ensure that there was no loss of meaning and the perceived were appropriately captured, I presented the themes and categories back to the team. The specific parts of the transcripts were shown to them to initiate a dialogue on whether the ideas were properly represented. There were comparisons, contrasting as well as integrating of the learnings from the previous research and the present. While the first cycle of planning, acting and reflecting led to the preparation of the questionnaire, the process deepened the understanding of the participants on the areas of stress and coping, It made them critically reflect on their intentions, beliefs, values as well as their own actions.

Despite being a part of the original plan to use mixed method research and use quantitative methods as well, the idea to obtain the opinion from a wider group using a questionnaire was generated from the PAR team. Most of the team members felt that the opinions of 25 participants was not sufficient to accurately capture how stress was perceived by the members of the community. It was opinioned that the only practical way of obtaining wider participation was to use a questionnaire. This led to the second cycle of the research that focused on collecting information from a larger group and analysing the results.

4.2 Cycle 2

Action cycle 2 covered the quantitative strand of the research. The cycle 2 included the following actions.

- Dissemination of the questionnaire among the factory workers, explaining the contents of the questionnaire and collecting the completed questionnaires.

- Entering the collected data into spreadsheets.
- Collaboratively analyse the data comparing, contrasting and integrating with the findings from the cycle 1, which provided the qualitative information.
- Collaboratively reflect on the findings.

The PAR team assisted in distributing the questionnaire among the apparel factory workers. The team decided that the best locations to approach the workers were the boarding houses they were staying in. The team participated in explaining the contents of the questionnaire, its meaning and the expectation to the approached participants. This was usually done in groups. The completed questionnaires were first entered to excel sheets and subsequently to SPSS software package. The statistical analysis was done using SPSS by myself. The following section provides the results of the quantitative strand (cycle 2) of the research comparing, contrasting and integrating the learnings from action cycle 1.

4.2.1 Sample

There are more than 340,000 people employed in the apparel sector of Sri Lanka. It is noted that approximately 87% of them are women (Sivananthiran, 2009). The apparel industry is spread throughout the country. However, most of the factories are located in the free trade zones (FTZs). There are 12 FTZs in Sri Lanka and the government of Sri Lanka (GOSL) has extended special tax benefits to the factories located in the FTZs, that has resulted in a concentration of apparel factories in these zones.

The sample consists of 155 apparel factory workers in Sri Lanka. They were randomly selected. Most of the employees of the apparel factories are from remote villages and they stay in the boarding houses closer to the FTZs. These boarding houses were identified as the best places to

meet the apparel industry employees. As employees from different factories stay at the same places, it provided an opportunity to obtain information from a wider sample. A total of 250 questionnaires were distributed among factory employees and 205 questionnaires were completed by them and returned. Out of the returned questionnaires fully completed 155 questionnaires were analysed. There are from many factories located in 3 main FTZs.

4.2.2 Biographical Data of the Apparel employees

This section will present the personal, job and demographic information of the participants to the survey.

4.2.2.1 Sex

The high majority of the workers in Sri Lankan apparel industry are females. The discussions held with the HR managers of apparel factories revealed that the actual percentage of female workers is above 80%. As Table 1 shows, 78.7 percent of the sample are females (n=122) while only 21.3 percent of the employees are male (n=33).

Table 1 Distribution of respondents'		
Sex		
Sex	n	%
Female	122	78.7
Male	33	21.3
Total	155	100.0

4.2.2.2 Age

The employees of apparel industry are primarily from rural villages of the country. As shown in Table 2, majority of them are from age 25 to 29 (43.22%). Only a small percentage of 19.36 are over 35 years of age. It is clear that most of the employees in Sri Lankan apparel sector are young or middle-aged.

Table 2 Age distribution of apparel employees		
Age	n	%
<=19	2	1.29
20-24	21	13.55
25-29	67	43.22
30-34	35	22.58
35-39	13	8.39
40+	17	10.97
Total	155	100.00

4.2.2.3 Marital status

The high majority of the employees are married (63.23%). This means most of them have some family-related responsibilities as well as some form of family support.

Table 3 Marital status of apparel employees		
Marital status	n	%
Married	98	63.23
Single	57	36.77
Total	155	100.00

4.2.3 Job and Career Demographics

4.2.3.1 Level of education

The data collected from the participants revealed that the general education level among apparel factory employees was quite low. As shown in Table 4, 12.26% of the participants had only elementary education, 75.48% had completed education up to ordinary level. Only a percentage of 12.26 had completed advanced level. The sample did not have any graduate employees. However, it was noted that there were employees who had obtained degrees working at the head offices of some of the companies that owned the factories.

Table 4 Education level of apparel employees		
Education Level	n	%
Elementary education	19	12.26
O/L	117	75.48
A/L	19	12.26

Graduate	0	0
Post Graduate	0	0
Total	155	100.00

4.2.3.2 Job Title

Table 5 presents the percentage of participants based on job category. The sample consists of 100 (64.52%) machine operators, 13 cutters (8.39%), 13 employees providing supporting services (8.39%), 11 supervisors (7.09%), three managers (1.39%), and 15 (9.68%) others employed in different areas of operations.

Table 5 Current job title of the respondents		
Job Title	n	%
Machine Operator	100	64.52
Cutter	13	8.39
Other supporting tasks	13	8.39
Supervisor	11	7.09
Manager	3	1.93
Other	15	9.68
Total	115	100.00

4.2.3.3 Length of time in current position

The workforce is experienced to some degree. According to the information given in Table 6, on average, an employee has been there in the current position for 48.7 months. The sample had 63.87% of the employees with more than 36 months experience in their current position.

Table 6 Length of time in present job		
Months in present job	n	%
<=12	20	12.9
13-24	21	13.55
25-36	15	9.68
37-48	36	23.22
48-60	19	12.26
61+	44	28.39
Total	155	100.00

4.2.3.4 Workload in factory

In Sri Lanka, an employee is expected to work 45 hours a week. Based on the category of the employee additional payment needs to be made for any extra hours of work. Based on the information collected from the sample, that is presented in Table 7, it is apparent that 88.39% of

the employees work more than 45 hours a week. Only 9.03% of the employees are working between 31 to 45 hours per week, which is the average number of hours employees in many other industries work. The employees working less than 30 hours are working on part-time basis.

Table 7 Hours worked per week		
Hours per week	n	%
1-15	2	1.29
16-30	2	1.29
31-45	14	9.03
46-60	84	54.20
61+	53	34.19
Total	155	100.00

4.2.4 Behavioural patterns (personality type)

The impact of the personality differences between the employees is an important factor in studying how individuals perceive stress and understand the different coping methods adopted by them. The relationship has been established between behavioural patterns and coronary heart disease (CHD) (Friedman, 1969; Rosenman, Friedman and Strauss, 1964, 1966). The behavioural patterns that were associated with CHD were named as Type A behaviour pattern (TABP). The individuals with type A behaviour pattern are more aggressive, ambitious, time conscious and competitive.

The present study used Bortner's (1969) Type -A scale in order to measure TABP. The scale makes use of 14 questions that are dichotomous. The 14 questions from Bortner scale measure the behaviour pattern of the individuals. Each question is measured in an 11 point scale with two ends of the behaviour being given the values of 1 and 11 . Within a given question 1 represents extreme Type B behaviour and 11 represent extreme Type A behaviour. The total score from the 14 questions is then compared against already established values to determine TABP. The distribution of the general population includes 10% of extreme Type B, 40% of moderate Type B, 40% of moderate Type A and 10% of extreme type A (Rosenman *et. al.*,1964). The sample in this study shows a considerable increase in moderate type B percentage (57%) among females. However, the moderate Type A percentage, as well as extreme type A percentage, among females are consistent with the general population distribution. The sample reveals a lesser percentage of extreme Type A employees among the males (3.03%). The total Type A percentage (57.58) is above the general population Type A percentage, which is 50%.

Table 8 Personality Type by gender				
Personality type	Female count	%	Male count	%
Extreme Type B	1	1	0	0
Moderate Type B	70	57	14	42.42
Moderate Type A	41	34	18	54.55
Extreme Type A	10	8	1	3.03
Total	122	100	33	100

4.2.5 Job satisfaction

Job dissatisfaction is considered as a direct response to stress by an employee. Consequently, Job satisfaction is extremely important when one studies how stress is perceived by employees. The present study users 12 questions in line with Pressure Management Indicator (PMI) (Williams, Cooper and Cary, 1998) in order to establish the level of job satisfaction of apparel employees.

the Minnesota Satisfaction Questionnaire(MSQ), Warr Job Satisfaction Questionnaire, and the Occupational Stress Indicator(OSI) were identified as commonly used instruments to measure the satisfaction. All of them are self-report questionnaires. MSQ long form was not considered as it consisted of 100 questions requiring considerable time and effort to be filled by a participant. MSQ short form is made of 20 elements represented by three scales. They are intrinsic, extrinsic and general satisfaction. The PAR team was of the general opinion that the MSQ short form did not capture the factors affecting job satisfaction in the apparel industry appropriately. Many were of the opinion that many of the questions were not applicable in the apparel industry. E.g.

- Being able to keep busy all the time.
- The chance to work alone on the job.
- The chance to be “somebody” in the community.
- Being able to do things that don’t go against my conscience.
- The chance to do things for other people.
- The chance to tell people what to do.
- The freedom to use my own judgment.
- The chance to try my own methods of doing the job.
- The feeling of accomplishment I get from the job.

- The praise I get for doing a good job

The primary objective of most of the apparel workers is to earn a living and many of the intrinsic factors considered relevant in many other industries are not directly applicable for the apparel industry. Similarly Warr et al.'s (1979) Job Satisfaction Scale captured many factors affecting intrinsic satisfaction and relationships with other employees were considered not applicable by the PAR team. PMI, which is shortened form of OSI captured factors that were more closely associated with the job satisfaction in the apparel industry.

Each question measures one aspect of job satisfaction and is rated using a six point Likert scale. Consequently, the scores for a given employee can range from 12 to 72. The scale had high reliability, Cronbach's $\alpha = .90$. Table 9 shows the mean score obtained for each of the measured area of job satisfaction and the number of times participants had rated with a score of five or above each question. A score of five indicate that the individual is very satisfied in the area concerned. The data gathered from 155 apparel employees revealed that in general they were somewhat unsatisfied with $M = 42.77$ and $SD = 10.32$. It is noted that none of the questions had an average score reaching 4, which is a score that meant an employee was somewhat satisfied.

Table 9 Job Satisfaction : in the order of most satisfaction			
Job Satisfaction item*	Mean	Number scoring 5 or 6	% scoring 5 or 6
The degree to which you feel extended in your job.	3.83	40	25.81
The design or shape of your organisation's structure.	3.71	36	23.23
The actual job itself.	3.6	34	21.94

The style of supervision that your superiors use.	3.57	44	28.39
The kind of work or tasks you are required to perform.	3.57	31	20
The degree to which you feel that you can personally develop or grow in your job.	3.57	32	20.65
The way in which conflicts are resolved in your organisation.	3.57	29	18.71
The degree to which your job taps the range of skills which you feel you possess.	3.54	37	23.87
The psychological 'feel' or climate that dominates your organisation.	3.51	36	23.23
The degree to which you feel 'motivated' by your job.	3.48	31	20
The way changes and innovations are implemented.	3.45	33	21.29
Communication and the way information flows around your organisation.	3.37	38	24.52

Note: * Each item was scored in a scale of 1–6; higher satisfaction is reflected by a higher score. Items with a mean score of below '4' indicates a level of dissatisfaction with this particular aspect of the employers' job.

4.2.5.1 Job satisfaction differences between subgroups in the sample

4.2.5.1.1 Job satisfaction : comparison of male and female employees

At the discussions held with the PAR team prior to the distribution of the questionnaire, it was found that most were of the opinion that the job satisfaction among the male employees were much higher than that to female employees. Therefore, a comparison was done of the level of job satisfaction experienced by the male workers and the female workers. As shown in Table 10 males had higher level of job satisfaction ($M=43.06$, $SE=1.95$) than females ($M=42.70$, $SE=.91$).

The difference, -0.36, BCa 95% CI[-4.376, 3.648] was not significant $t(153)=-0.179$, $p=0.858$. indicating that there wasn't much difference between males and females with respect to job satisfaction.

Table 10 Job satisfaction : comparison of male and female employees

Group Statistics										
		Sex	N	Mean	Std. Deviation	Std. Error Mean				
Job Satisfaction	Female		122	42.70	10.11	.91547				
	Male		33	43.06	11.21	1.95059				

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Job Satisfaction	Equal variances assumed	0.797	0.373	-0.179	153	0.858	-0.36388	2.03080	-4.37592	3.64815
	Equal variances not assumed			-0.169	47.046	0.867	-0.36388	2.15474	-4.69854	3.97078

4.2.5.1.2 Job satisfaction : comparison of Type A and Type B individuals

Table 11 shows that the individuals with type B personality had higher level of job satisfaction ($M=43.8$, $SE=1.13$) than individuals with type A personality ($M=41.53$, $SE=1.20$). However, the difference, 2.271, BCa 95% CI[-1.009, 5.552] was not significant $t(153)=1.268$, $p=0.173$, indicating little difference between the two types with respect to job satisfaction.

Table 11 Job satisfaction : comparison of Type A and Type B employees

Group Statistics										
		Personality Type	N	Mean	Std. Deviation	Std. Error Mean				
Job Satisfaction	Type B		85	43.8000	10.47196	1.13584				
	Type A		70	41.5286	10.06028	1.20243				

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Job Satisfaction	Equal variances assumed	0.003	0.959	1.368	153	0.173	2.27143	1.66055	-1.00914	5.55200
	Equal variances not assumed			1.373	149.379	0.172	2.27143	1.65408	-0.99699	5.53985

4.2.5.1.3 Job satisfaction : comparison among different jobs

The nature of the job of each employee in apparel factory depends on the job category. A considerable difference exists among different job categories when one considers the level of repetition, pace of the job, dependency on the final product etc. are taken into consideration. As a result, the PAR team of the opinion that different level of job satisfaction is experienced by workers belonging to different job categories.

Table 12 presents the mean and standard deviation of job satisfaction for each of the 6 job categories. The most satisfied among apparel employees are the supervisors ($M=46.55$, $SD=6.82$). They are followed by the cutters ($M=46.46$, $SD=11.24$). The least satisfied among the employees are under the segment of others ($M=37.93$, $SD=13.27$). The employees of the segment provide services that are not directly reported to the production process. These employees range from nurses, cleaners to other office employees. The machine operators, who constitute the largest segment of the employees had an average of 42.83 with a standard deviation of 10.33. ANOVA did not show a significant difference among different job categories. ($F [5, 149] = 1.363$, $p = .242$, partial $\eta^2 = .044$). However, it indicates that there is variation between groups than within the group.

Table 12 Job Satisfaction by Job

Job	Mean	N	Std. Deviation
Machine Operator	42.8300	100	10.33388

Cutter	46.4615	13	11.23696
Other supporting tasks	41.4615	13	7.26424
Supervisor	46.5455	11	6.81709
Manager	41.0000	3	3.60555
Other	37.9333	15	13.26901
Total	42.7742	155	10.31740

ANOVA Table

			Sum of Squares	df	Mean Square	F	Sig.
Job Satisfaction * Job	Between Groups	(Combined)	716.865	5	143.373	1.363	0.242
	Within Groups		15676.232	149	105.210		
	Total		16393.097	154			

Measures of Association

	Eta	Eta Squared
Job Satisfaction * Job	.209	.044

4.2.6 Withdrawal Behaviours

4.2.6.1 Intention to Leave

High turnover is a serious issue faced by the apparel industry in Sri Lanka. This makes it an important aspect to be studied. The intension is a proxy for the actual action to be followed (Hsu et al.,2003). The intention to leave was measured using three questions. The questions check whether the participant has been keen on finding a new job recently, whether the person has been actively searching for a job and finally whether the person intends to leave the job within the next six months. The questions were based on Mobley et al. (1978) who identified three aspects of intention to leave. The three aspects are thinking of quitting, the intention to search for a new job, and the intention to quit. Alam and Mohammad (2010); Cooper, Cooper, and Travers (1996) used the same three aspects to measure the intension to quit. Each question was scored using a five points Likert scale. While a score of one indicates that the participant does not agree at all, a score of five indicates that the participant agrees completely. An employee could have a score from 3 to 15. As shown in Table 13, the participants had an average of 8.45 (n=155) with a standard deviation of 2.22. A mean of 2.95 for the item that questioned the participant whether the participant had been keen on a new job for several months indicates that on average the apparel employees are generally keen on new jobs.

Table 13 Intention to Leave	
Intention to Leave item	Mean
I have been keen on a new job for last several months	2.95
I am actively searching for an alternative job	2.76
I intend to leave the present job within 6 months	2.73

4.2.6.1.1 Impact of personality Type

Table 14 Intention to Leave by Personality Type

Group Statistics										
		Peronality Type	N	Mean	Std. Deviation	Std. Error Mean				
Intention to leave		1.00	85	8.5765	2.16782	.23513				
		2.00	70	8.2857	2.28507	.27312				

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Intention to leave	Equal variances assumed	1.307	0.255	0.811	153	0.419	0.29076	0.35855	-0.41759	0.99910
	Equal variances not assumed			0.807	144.143	0.421	0.29076	0.36039	-0.42158	1.00309

4.2.6.1.2 Impact of Sex

The Table 15 indicates a significant difference between female ($M=7.39$, $SE=0.40$) and male ($M=8.73$, $SE=0.19$) participants. The difference of the means, which is 1.335, BCa 95% CI[0.4993, 2.1717] indicates that the intention to leave the job is significantly higher among female employees ($t=3.155$, $p=0.002$), $d=.5831$).

Table 15 Intention to Leave by Sex

Group Statistics					
	Sex	N	Mean	Std. Deviation	Std. Error Mean
Intention to leave	Female	122	8.7295	2.12049	.19198
	Male	33	7.3939	2.29046	.39872

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Intention to leave	Equal variances assumed	2.349	0.127	3.155	153	0.002	1.33557	0.42326	0.49938	2.17176
	Equal variances not assumed			3.018	47.877	0.004	1.33557	0.44253	0.44574	2.22539

	assumed										
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4.2.6.1.3 Impact of job

Table 16 shows the results of a one-way ANOVA that was conducted to evaluate whether there was a difference in mean intention to leave among different jobs. The sample (N=155) consisted of machine operators (M=9.02, SD= 1.79), Cutters (M=6.85, SD=1.62), Other supporting tasks (M=8.31, SD=3.38), Supervisors (M=7.36, SD=2.69), Managers (M=6.33, SD=2.08) and others (M=7.33, SD=2.38). The ANOVA provided evidence that differences existed among different job categories $F(5,149)=5.127, p < .001, \eta^2 = .147$

Table 16 Intention to Leave by Job

	N	Mean	Std. Deviation
Machine Operator	100	9.0200	1.79213
Cutter	13	6.8462	1.62512
Other supporting tasks	13	8.3077	3.37601
Supervisor	11	7.3636	2.69343
Manager	3	6.3333	2.08167

Other			15	7.3333	2.38048		
Total			155	8.4452	2.21899		

ANOVA Table

			Sum of Squares	df	Mean Square	F	Sig.
Intention to leave * Job	Between Groups	(Combined)	111.317	5	22.263	5.127	0.000
	Within Groups		646.967	149	4.342		
	Total		758.284	154			

Measures of Association

	Eta	Eta Squared
Intention to leave * Job	0.383	0.147

4.2.7 Coping

The Ways of Coping Checklist (WCCL; Aldwin et al. 1980), the Cybernetic Coping Scale (CCS; Edwards 1991), and Occupational Stress Indicator (OSI; Cooper, Sloan, and Williams, 1988) were considered as possible measures of coping. WCCL is a coping measure that is based on

Lazarus' transactional model of work stress which assumes that exceeding the resources of an individual in order to meet the demands results in stress. WCCL consists of 67 items that can be categorised into problem focused coping and emotion focused coping. CCS is based on the principle that the gap between the desired state of an individual and the perceived state causes stress. CCS is made of 40 items. They are divided into five factors including attempts to bring the situation into conjunction with desires, accommodation, devaluation, symptom reduction, and avoidance (Edwards and Baglioni, 1993). Coping strategies can only be understood with paying due reverence to the context they are being used (Oakland and Ostell, 1996). When the context of the apparel industry is taken into consideration, it is evident that some of the problems specific coping strategies cannot be used due to the very nature of the production lines in the apparel industry. The most of the PAR team members were of the opinion that WCCL and CCS could not be used in the present context due to large number of questions and considerable focus on problems specific coping strategies. The team decided that the item is captured in OSI a were more reflective of the present context. Therefore slightly modified version of OSI was used to measure coping strategies. OSI dubbed satisfaction scale consisted of 22 items covering both intrinsic and extrinsic satisfaction. A six-point Likert scale is being used with 1 being considered as very much dissatisfied and six as very much satisfied. The slightly modified scale consisted of 25 items. Several additional strategies were included based on the discussions with participants. Table 17 shows the coping methods used by apparel factory workers in the order of preference. While 'enjoy life outside of work' and 'try to understand the situation through the religious concepts and accept the present situation' were the most popular coping methods 'seek support and advice from my superiors' was the least popular coping method.

Table 17 Coping methods used by apparel employees				
Coping Style item *	Mean	Std. Deviation	Number scoring 5 or 6	% scoring 5 or 6
Enjoy life outside of work.	3.97	1.128	49	31.61
Try to understand the situation through the religious concepts(eg. Karma) and accept the present situation.	3.92	1.171	52	33.55
Stay busy.	3.88	1.147	48	30.97
Try to reduce my workload.	3.87	1.103	44	28.39
Look for the ways to make the work more interesting.	3.85	1.185	45	29.03
Keep home and work separate.	3.82	1.261	45	29.03
Talk to understanding friends.	3.81	1.201	44	28.39
Involve in religious practices.	3.81	1.043	33	21.29
Accept the situation and learn to live with it.	3.78	1.164	43	27.74
Use selective attention (concentrating on specific problems).	3.77	1.104	46	29.68
Effective time management.	3.74	1.318	45	29.03
Set priorities and deal with problems accordingly.	3.74	1.196	43	27.74
Don't let things get to me.	3.74	1.233	38	24.52

Share my concerns with other people.	3.72	1.131	45	29.03
Keep calm under pressure.	3.7	1.285	44	28.39
Seek as much social support as possible.	3.69	1.267	42	27.1
Try to 'stand aside' and think through the situation.	3.65	1.188	37	23.87
Find time to relax.	3.62	1.229	37	23.87
Have stable relationships.	3.57	1.319	36	23.23
Plan ahead.	3.5	1.266	34	21.94
Look for alternative job.	3.43	1.117	21	13.55
Resort to hobbies and pastimes.	3.41	1.417	40	25.81
Try to deal with the situation objectively in an unemotional way.	3.37	1.244	26	16.77
Expand interests and activities outside work.	3.34	1.379	36	23.23
Seek support and advice from my superiors.	3.31	1.307	29	18.71

Note: * The overall percentage of employees scoring 5 or 6 is used to indicate the strength of preference – in other words, the strategy was 'extensively' or 'very extensively' used by them.

4.2.7.1 Segmentation of coping strategies

OSI (Cooper, Sloan, and Williams, 1988) consisted of six subscales of coping strategies. They are social support, task strategies, logic, home:work strategies, time management, and involvement. Based on available OSI factors, OSI revisions based on Dutch studies (Evers, Frese

and Cooper, 2010) and the discussions held with participants coping strategies were grouped into six factors.

1. social support
2. denial
3. compensatory behaviour
4. withdraw
5. religion support
6. task strategies

factor 1: Social Support

1. Talk to understanding friends.
2. Seek as much social support as possible.
3. Share my concerns with other people.
4. Have stable relationships.
5. Seek support and advice from my superiors.

factor 2: Denial

1. Don't let things get to me.

factor 3: Compensatory behaviour

1. Resort to hobbies and pastimes.
2. Expand interests and activities outside work.
3. Keep home and work separate.
4. Find time to relax.
5. Enjoy life outside of work.
6. Try to reduce my workload.
7. Accept the situation and learn to live with it.
8. Stay busy.
9. Look for the ways to make the work more interesting.

factor 4: Withdraw

1. Look for alternative job.

factor 5 : Religion Support

2. Involve in religious practices.
3. Try to understand the situation through the religious concepts(eg. Karma) and accept the present situation.

factor 6 : Task Strategies

1. Try to deal with the situation objectively in an unemotional way.

2. Effective time management.
3. Plan ahead.
4. Use selective attention (concentrating on specific problems).
5. Set priorities and deal with problems accordingly.
6. Try to 'stand aside' and think through the situation.
7. Keep calm under pressure.

4.2.7.2 Reliability of the factors

It is noted that 'Denial' factor had only one question, 'withdrawal' factor one question and 'religion support' only two questions. The factors social support, complementary behaviour and task strategies were reliable with standardized Cronbach's Alpha values of .573, .731, .755 respectively as shown in Table 18. Table 19 provides the mean score and standard deviation for each coping strategy segment.

Table 18 Reliability of factors of Coping Strategies			
	Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
Social support	0.571	0.573	5
Compensatory behaviour	0.729	0.731	9
Task strategies	0.753	0.755	7

Table 19 Use of Coping Strategies		
	Mean	Std. Deviation
Social support	18.1032	3.78338
Denial	3.7355	1.23308
Compensatory behaviour	33.5355	6.21297
Withdraw	3.4323	1.11669
Religion support	7.7355	1.79855
Task strategies	25.4710	5.46929

As shown in Table 17, compensatory behaviour is used as a main coping strategy by the participants. Among the most commonly used strategies are ‘enjoy life outside of work’, ‘stay busy’, ‘try to reduce my workload’, ‘keep home and work separate’. Try to understand the situation through the religious concepts and accept the present situation was the second most popular coping strategy.

4.2.7.3 Impact of sex on coping methods

There is no clear difference between male and female participants when choosing a coping strategy as revealed in Table 20.

Table 20 Use of Coping Methods by Gender

Coping Strategy factor	Sex	N	Mean	Std. Deviation	Std. Error Mean
Social support	Female	122	17.9508	3.54394	.32085
	Male	33	18.6667	4.58030	.79733
Denial	Female	122	3.6475	1.25916	.11400
	Male	33	4.0606	1.08799	.18939
Compensatory behaviour	Female	122	33.5000	6.16609	.55825
	Male	33	33.6667	6.47913	1.12787
Efficient behaviour	Female	122	21.1230	5.01992	.45448
	Male	33	21.4545	5.21471	.90776
Withdraw	Female	122	3.3934	1.11011	.10051
	Male	33	3.5758	1.14647	.19957
Task strategies	Female	122	25.3689	5.34465	.48388
	Male	33	25.8485	5.97976	1.04094

4.2.7.4 Impact of the personality type on coping methods

Table 21 provides the mean and standard deviation for Type A and Type B personality types. No significant difference is observed between Type A and type B personality on choosing a coping strategy.

Table 21 Use of Coping Methods by Personality Type					
Coping Strategy factor	Personality Type	N	Mean	Std. Deviation	Std. Error Mean
Social support	Type B	85	18.1647	3.64446	.39530

	Type A	70	18.0286	3.97080	.47460
Denial	Type B	85	3.5647	1.26723	.13745
	Type A	70	3.9429	1.16576	.13934
Compensatory behaviour	Type B	85	33.2706	6.28564	.68177
	Type A	70	33.8571	6.15332	.73546
Withdraw	Type B	85	3.4353	1.13858	.12350
	Type A	70	3.4286	1.09771	.13120
Task strategies	Type B	85	25.3529	5.78526	.62750
	Type A	70	25.6143	5.09701	.60921
Religion support	Type B	85	7.7176	1.79690	.19490
	Type A	70	7.7571	1.81328	.21673

4.2.8 Sources of pressure

Possible sources of pressure were identified based on the discussions with participants of the research. The sources of pressure from OSI and from the literature review conducted was presented to the PAR team. The questionnaire was prepared based on the 47 possible reasons that were identified from the literature review and dialogue with the PAR team members. Each possible source of pressure was measured using a scale of 1 to 6. A score of 1 indicated the area concerned not at all acting as special source. A score of six indicated a definite high level of pressure. The table 22 provides the questions, mean, standard deviation and the number of participants that rated the area as high pressure (a score of five or six).

The low salary compared to the work done was considered to be the item causing the highest amount of pressure according to the participants. The item had a mean of 4.12. Out of the 155 participants 65 rated low salary highest with a score of five or six. In addition, verbal aggression from the supervisor was considered as a main item causing stress ($M=3.98$). 55 of the participants rated the item as five or six. This is followed by the lack of the opportunities for personal development ($M = 3.96$), having to pursue a career at the expense of home life ($M = 3.96$), financial difficulties ($M = 3.94$), negative implications of the mistakes you make ($M = 3.9$), lack of job security ($M = 3.9$), being undervalued ($M = 3.89$), having to work very long hours ($M = 3.88$), subject to personal harassment in the form of unkind words or behaviour ($M = 3.88$), inadequate number of staff ($M = 3.87$), excessive workload ($M = 3.86$), a lack of encouragement from superiors ($M = 3.85$).

Table 22 Sources of Job Pressure

	Mean	Std. Deviation	Number scoring 5 or 6	% scoring 5 or 6
Low salary compared to the work done.	4.12	1.348	65	41.94
Verbal aggression from supervisor	3.98	1.389	55	35.48
Lack of the opportunities for personal development.	3.96	1.279	61	39.35
Having to pursue a career at the expense of home life.	3.96	1.353	54	34.84
Financial difficulties..	3.94	1.445	57	36.77
Negative implications of the mistakes you make.	3.9	1.252	49	31.61
Lack of Job security.	3.9	1.401	57	36.77

Being undervalued.	3.89	1.332	58	37.42
Having to work very long hours.	3.88	1.372	56	36.13
Subject to personal harassment in the form of unkind words or behaviour.	3.88	1.279	55	35.48
Inadequate number of staff.	3.87	1.247	48	30.97
Excessive work overload.	3.86	1.617	63	40.65
A lack of encouragement from superiors.	3.85	1.352	49	31.61
Keeping up with the change of technology.	3.82	1.287	48	30.97
Supervisor abuse.	3.81	1.354	53	34.19
Morale and organisational climate.	3.81	1.325	51	32.9
Physical aggression from supervisor.	3.79	1.476	51	32.9
Workplace incivility.	3.78	1.224	43	27.74
An absence of any potential career advancement.	3.78	1.296	45	29.03
Deadlines for orders and time pressure.	3.75	1.302	55	35.48
Inadequate feedback about my own performance.	3.75	1.272	47	30.32
Little involvement in decision making.	3.73	1.291	46	29.68
Simply being 'visible' or 'available'.	3.69	1.214	40	25.81
Uncertain responsibilities.	3.68	1.309	45	29.03
Discrimination and favouritism by the supervisors or managers.	3.68	1.258	41	26.45
Demands my work makes on my relationship with my partner / children.	3.68	1.252	43	27.74
Physical conditions (noise, lighting, temperature).	3.68	1.269	44	28.39

Characteristics of the organisation's structure and design.	3.68	1.372	50	32.26
Customer/client complains.	3.66	1.235	41	26.45
Repetitive tasks (eg. Repeating the same hand movement in sewing).	3.62	1.364	46	29.68
Shift work arrangements / Non standard shifts.	3.62	1.224	39	25.16
Lack of practical support from others outside work.	3.62	1.26	39	25.16
Lack of help and support from colleagues.	3.59	1.172	36	23.23
Lack of authority over work.	3.57	1.232	40	25.81
Unfair treatment by manager or supervisor.	3.56	1.325	37	23.87
My partners attitude towards my job.	3.52	1.448	42	27.1
Apart from the present job, I have no other employable skill..	3.52	1.487	43	27.74
Home family life adversely affecting work.	3.49	1.296	37	23.87
Home life with a partner who is also pursuing a career.	3.49	1.407	36	23.23
Changes in the way you are asked to do your job.	3.47	1.175	35	22.58
Feeling isolated.	3.37	1.254	30	19.35
Factors not under your direct control.	3.35	1.277	32	20.65
Demands that work makes on my private / social life.	3.25	1.37	35	22.58
Absence of emotional support from others outside work.	3.14	1.346	24	15.48
Absence of stability or dependability in home life.	2.92	1.269	20	12.9
Too many responsibilities for people, money and others.	1.34	1.035	7	4.52
Poor relationships with subordinates.	1.21	0.83	4	2.58

4.2.8.1 Factor analysis of the sources of pressure in the job

The OSI(Cooper, Sloan, and Williams, 1988) consisted of 61 possible sources of pressure. The scale consisted of six subscales. They are factors intrinsic to the job, the organisational role, relationships with others, carry an achievement, organisational structure and climate, home/work interface. The items were measured using a six point Likert scale.

Taking into consideration that there are large number of possible causes for stress, they were grouped based on their similarity into several factors or segments. This was done based on the already available factors of OSI, findings from the literature, and discussions had with the participants. This categorization entails better understanding of factors causing stress and possible coping mechanisms used by the participants to mitigate stress. The key factors identified are as follows.

1. Workload
2. Recognition
3. Relationships with others
4. Organizational climate
5. Home-work interface
6. Abusive supervision
7. Personal responsibility
8. Financial difficulty

9. Management role

4.2.8.1.1 Factor 1: Workload

Most of the apparel workers are machine operators working in production lines. Due to the deadlines enforced by the buyers, it is necessary to work fast which requires considerable amount of physical effort. This further resolves in working excessive work hours as well as inconvenient times. The environment is repetitive forcing machine operators to repeat the same hand movements throughout the day. The factor ‘workload’ includes the items that are directly related to the workload. The following six items are included in the factor. Each item is represented as a question in the questionnaire.

1. Excessive work overload.
2. Having to work very long hours.
3. Deadlines for orders and time pressure.
4. Repetitive tasks (eg. Repeating the same hand movement in sewing).
5. Shift work arrangements / Non-standard shifts.
6. Inadequate number of staff.

One female machine operator explained the workload.

The workload primarily depends on the orders. The customers usually provide the deadline by which the production should be completed and be shipped. The failure of deadlines lead to increased cost as more expensive airfreight has to be used. In addition, missing deadlines can cause losing customers and orders. Consequently, we have to work long hours as well as long

shifts when there are many orders. Workload is seasonal. During such times we work 12 hours at a stretch. Work continues 24 hours. At times we have to work Day shift followed by a night shift with few hours break.

Several other aspects of workload were explained by another female machine operator.

Our work is very repetitive. When a new style is introduced, we are undergo a short training where we are thought what hand movements and sequence to be used for sewing the style. We keep repeating the same hand movements until another style is introduced. In case of high fashion garments the sewing activities involved are more complex. That requires more skilled staff. We don't have a large number of skilled staff and we are forced to work in extended shifts to meet the targets.

4.2.8.1.2 Factor 2: Recognition

this factor refers to lack of recognition of the contribution made by the employees. It covers the areas such as under promotion, little opportunity for further development in the carrier, lack of opportunities for personal development, job insecurity etc., which may lead to dissatisfaction and stress. The following areas are captured in the questionnaire with relevance to 'recognition'.

1. Being undervalued.
2. Inadequate feedback about my own performance.
3. An absence of any potential career advancement.
4. Lack of the opportunities for personal development.
5. Lack of Job security.

One female machine operator explained why she believed that she was not recognised.

No one values our work. The supervisors and managers consider work as very mechanical and don't provide any feedback. We keep doing the same work every day. We are not given any opportunity to progress. They think that we can be replaced by others very easily.

4.2.8.1.3 Factor 3: Relationships with others

The relationship an employee has with his boss, subordinates, colleagues as well as customers and outsiders is another major source of stress. French and Caplan (1973) define poor relationships in terms of low trust, low level of supportiveness and low interest to listen to the employer.

1. Unfair treatment by manager or supervisor.
2. Lack of help and support from colleagues.
3. Feeling isolated.
4. A lack of encouragement from superiors.
5. Customer/client complains.
6. Absence of emotional support from others outside work.
7. Lack of practical support from others outside work.

One female machine operator explained how relationships can cause stress in her job.

From the time the work starts we work almost alone. Rarely we get supported by others. We are to sew the part that we are expected to and pass to the next machine operator. In our type of

work we don't get any encouragement from our superiors. However, if we make any mistake we receive customer complaints and penalised.

4.2.8.1.4 Factor 4: Organizational climate

this factor describes the stress that an employee experiences 'being an employee in the organisation'. This covers many aspects of the organisation participation and involvement of the employees. It is noted that in many cases that the supervisors and managers do not consult the subordinates and the way that the employees are asked to perform their functions results in stressful situation. Organisational climate is a more holistic representation the structure and the way things take place in the organisation.

1. Discrimination and favouritism by the supervisors or managers.
2. Changes in the way you are asked to do your job.
3. Simply being 'visible' or 'available'.
4. Factors not under your direct control.
5. Physical conditions (noise, lighting, temperature).
6. Morale and organisational climate.
7. Characteristics of the organisation's structure and design.
8. Keeping up with the change of technology.

A female machine operator explained organisational climate.

There are always favourites to supervisors. While they get easier tasks, others are always given the difficult ones. We have no control over the work we are given and have to just follow orders. When new technologies introduced, the better training is provided to favourites. This overall situation and the way things are managed affects us.

4.2.8.1.5 Factor 5: Home – Work Interface

1. Demands my work makes on my relationship with my partner / children
2. Home family life adversely affecting work.
3. Home life with a partner who is also pursuing a career.
4. Absence of stability or dependability in home life.
5. Demands that work makes on my private / social life.
6. Having to pursue a career at the expense of home life.
7. My partners attitude towards my job.

A male supervisor explained the impact of work in personal life.

I have to spend long hours at work and only limited time to spend with family. I have no choice as this is the only job I am familiar with. It is very difficult to explain my situation to family.

4.2.8.1.6 Factor 6: Abusive supervision

This factor combines workplace incivility and abusive supervision. Workplace incivility refers to a low intensity deviation that is not intended to harm a person (Anderson and Pearson, 1999). It is considered as discourteous behaviour which is relatively mild (Penny and Spector, 2005).

Abusive supervision is a form of nonphysical hostility from managers against their subordinates. This includes undermining, belittling as well as verbal aggression (Tepper et al., 2008).

1. Workplace incivility.
2. Supervisor abuse.
3. Subject to personal harassment in the form of unkind words or behaviour.
4. Verbal aggression from supervisor
5. Physical aggression from supervisor.

A female machine operator explained some of the issues she had faced during her present job.

At times I get frustrated over my job. There are many times that my supervisor has scolded me in filth. I feel that the minimum level of human respect is not there. There are many instances that female machine operators were subjected to sexual harassment.

Factor 7: Personal responsibility

This factor includes two areas where I employee has a responsibility to improve his skill set.

1. Negative implications of the mistakes you make.
2. Apart from the present job, I have no other employable skill..

4.2.8.1.7 Factor 8: Financial difficulty

Employees in the apparel industry and the factory workers in particular are paid very low salaries. Most of these employees are coming from remote villages. Most of them don't have any other source of income and join apparel factories due to financial difficulties in the first place.

1. Low salary compared to the work done.
2. Financial difficulties.

A male manager explained the financial difficulties experienced by the workers in the apparel industry.

While the senior employees in the head office are well paid, the employees in the factories are the lowest paid workers in the country. Most of the machine operators and others haven't got much educational qualification. They cannot demand higher salaries as they are dependent on the present job. Even they leave their present, they can only find a similar job in another apparel factory.

4.2.8.1.8 Factor 9: Management Role

1. Little involvement in decision making.
2. Lack of authority over work.
3. Too many responsibilities for people, money and others.
4. Uncertain responsibilities.
5. Poor relationships with subordinates.

A male manager described how he is stressed due to the limited authority he has over his work.

I have been given daily and monthly production targets to be achieved. I have to achieve the targets irrespective of the amount of resources I am given. I am being driven by the deadlines given by the customers. I have limited control over the deadlines. Due to this situation I am forced to apply pressure on my subordinates, especially the machine operators and supervisors. This has resulted in tension and in some cases bad relationships.

4.2.8.2 Reliability of the factors

Table 23 shows that all segments with more than 2 items have high internal consistency reliability. The segments workload, recognition, relationships with others, organisational climate, home-work Interface, abusive supervision, management role had satisfactory Cronbach's Alpha values as shown at Table 23 below.

Table 23 Reliability of the sources for Job Stress			
	Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
Workload	.836	.835	6
Recognition	.768	.769	5
Relationships with others	.720	.722	7
Organizational climate	.790	.791	8
Home – Work Interface	.795	.796	7

Abusive supervision	.824	.825	5
Personal responsibility	.157	.159	2
Financial difficulty	.429	.430	2
Management Role	.629	.628	5

4.2.9 Model to predict Job satisfaction

Table 24 presents the correlation matrix and descriptive statistics for the regression of Job Satisfaction on Abusive Supervision, Workload, Home/work interface, Organizational climate, Recognition and Relationships with others. Job satisfaction is a dependent variable while the rest are independent variables. Multiple regression analysis was used to evaluate whether abusive supervision ($M = 11.58$, $SD = 3.48$) workload ($M = 22.57$, $SD = 6.07$), home/work Interface ($M = 24.31$, $SD = 6.30$), organisational climate ($M = 29.17$, $SD = 6.49$), recognition ($M = 19.28$, $SD = 4.74$), relationships with others ($M = 24.79$, $SD = 5.47$) could predict the job satisfaction (see Table 24).

The multiple regression analysis was conducted using 'enter' method model. The result provided evidence to the fact that the factors could reliably predict job satisfaction among apparel factory workers, $F(6, 148) = 14.563$, $p < .001$. The model could predict 34.6% of the variance in job satisfaction. It is noted that only the relationship with others and recognition had $p < .05$. Organisational climate had a value of .051. That is to say among the factors considered in the regression analysis only relationship with others and recognition were important in predicting the value of job satisfaction. Relationship with others was the most important factor in predicting the job satisfaction ($b = 0.776$). (see Table 25)

Table 24 Correlation Matrix and Descriptive Statistics for Abusive Supervision, Workload, Home work interface, Organizational climate, Recognition and Relationships with others Toward Job Satisfaction							
	1	2	3	4	5	6	7
Job Satisfaction	1						
Abusive Supervision	0.339	1					
Workload	0.242	0.502	1				
Home/work interface	0.513	0.587	0.314	1			
Organizational climate	0.489	0.634	0.488	0.736	1		
Recognition	0.279	0.705	0.564	0.602	0.696	1	
Relationships with others	0.574	0.491	0.277	0.804	0.671	0.503	1
Mean	42.77	11.58	22.57	24.31	29.17	19.28	24.79
Standard Deviation	10.32	3.48	6.07	6.30	6.49	4.74	5.47

Note : n = 155. Job Satisfaction is the dependent variable. All correlations are statistically significant at $p < .001$.

Table 25 Multiple Regression Analysis of Job Satisfaction by Abusive Supervision, Workload, Home work interface, Organizational climate, Recognition and Relationships with others

Independent Variables	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
	B	Std. Error	Beta			Lower Bound	Upper Bound
Abusive Supervision	0.174	0.292	0.059	0.596	0.552	-0.403	0.75
Workload	0.154	0.14	0.091	1.104	0.271	-0.122	0.43
Home/work interface	0.153	0.208	0.094	0.738	0.462	-0.258	0.565
Organizational climate	0.359	0.182	0.226	1.969	0.051	-0.001	0.72
Recognition	-0.509	0.235	-0.234	-2.168	0.032	-0.974	-0.045
Relationships with others	0.776	0.211	0.411	3.669	0	0.358	1.193

Note: $R^2 = .371$, $F(6, 148) = 14.562$, $p < .001$. $n = 155$.

4.2.10 Model for Intention to leave

Table 26 presents the correlation matrix and descriptive statistics for the regression of Intention to Leave on Abusive Supervision, Workload, Home/work interface, Organizational climate, Recognition and Relationships with others

Multiple regression analysis was used to evaluate whether abusive supervision ($M = 11.58$, $SD = 3.48$) workload ($M = 22.57$, $SD = 6.07$), home/work Interface ($M = 24.31$, $SD = 6.30$), organisational climate ($M = 29.17$, $SD = 6.49$), recognition ($M = 19.28$, $SD = 4.74$), relationships with others ($M = 24.79$, $SD = 5.47$) could predict the intention to leave the job.

The model accounts for only 7.2% (adjusted R Square) of the variance of intention to leave the job. The multiple regression analysis was conducted using ‘forward ’ method model. The result provided evidence to the fact that only the ‘workload’ factor could predict intention to leave among apparel factory workers, $F(1, 153) = 12.886, p < .001$. (see Table 27)

Table 26 Correlation Matrix and Descriptive Statistics for Abusive Supervision, Workload, Home work interface, Organizational climate, Recognition and Relationships with others Toward Intention to Leave							
	1	2	3	4	5	6	7
Intent to leave	1						
Abusive Supervision	0.169	1					
Workload	0.279	0.502	1				
Home/work interface	0.197	0.587	0.314	1			
Organizational climate	0.235	0.634	0.488	0.736	1		
Recognition	0.229	0.705	0.564	0.602	0.696	1	
Relationships with others	0.199	0.491	0.277	0.804	0.671	0.503	1
Mean	8.26	11.58	22.57	24.31	29.17	19.28	24.79
Standard Deviation	2.5	3.48	6.07	6.3	6.49	4.74	5.47

Note : $n = 155$. Intention to Leave is the dependent variable. All correlations are statistically significant at $p < .001$, except the relationship between Intent to Leave and Abusive Supervision ($p = 0.018$), Intent to Leave and Home-Work interface ($p = 0.007$), Intent to Leave and Organizational climate ($p = 0.002$), Intent to Leave and Recognition ($p = 0.002$) and Intent to Leave and Relationships with others ($p = 0.006$).

Table 27 Multiple Regression Analysis of Intention to Leave by Abusive Supervision, Workload, Home work interface, Organizational climate, Recognition and Relationships with others							
Independent Variable	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
	B	Std. Error	Beta			Lower Bound	Upper Bound
Workload	0.115	0.032	0.279	3.59	0	0.052	0.178

Note: $R^2 = .279$, $F(1, 153) = 12.886$, $p < .001$. $n = 155$.

4.2.11 Action and Change

In case of PAR, any effort taken to remove some impediment that acts as a block in the growth of a group of people could be defined as action. (Kidd and Kral, 2005, p. 189). In the collective process of understanding the factors that cause stress, coping methods to mitigate the effects, personality type, job satisfaction and intention to leave, the participants deepened their understanding of the area's. That would enhance their readiness to face the challenges caused by stress.

The first few meetings were less productive usually resulting in arguments and disagreements. The participants resisted considering the opposite ideas and perceptions. Most of them wanted to

convince others and them to agree to their opinions. However, this situation gradually improved with the progress of the project when the participants started realising that they were failing to achieve the objectives and wasting a lot of time. This was further helped by the improved level of human interaction developing among the participants. With the improved level of communication and everyone being given the opportunity to express their opinions it was possible to derive common themes emerging out of the dialogue. What emerged from the discussions were then compared against the learnings from the literature review. The participants were then presented with the findings from the discussions as well as from the literature review. Having reviewed both the questionnaire was prepared modifying existing instruments required changes emerged through dialogue. The room was given for multiple perspectives on preparing questionnaire, defining categories, coming into conclusions and documentation. However, It may not cover or support all the participants objectives ideas of goals. Throughout the research the researcher improved understanding of stress and associated factors in the apparel industry in Sri Lanka. Similarly, the participants improved their understanding on theoretical aspects of stress, coping methods and implications. In addition, the participants developed a new set of skills on how to find answers to common problems in a collaborative manner. They develop the aspects of critical thinking.

Once data were gathered through questionnaire and statistics were prepared, the same was presented to the participants for their critical review. Their input was obtained in analysing the results in a participatory manner. The input from the participants was essential in shaping the understanding of the problem from the perspective of the community members and the context. The results from both qualitative and quantitative strands were integrated and analysed and critically reviewed. As detailed in previous sections the findings from both qualitative and

quantitative strands were complementary. The participants were in agreement with the findings of the quantitative analysis. On discussing the possible actions and interventions to address the stress related issues in the apparel industry, many were of the view that there was very limited options or ways of coping for them. One machine operator explained the situation.

Our work is very repetitive. There is no room for us to take decisions on our own. When a new style is introduced, samples are made and hand movements are monitored. Based on some industry standards the best hand movements and their sequence is forced on us. We are not supposed to deviate from that. In addition, our shifts are given to us by our supervisors. This is usually done based on the requested delivery dates by the customers. We do not have any authority to decide on our work in shifts. Making things worse, we have to tolerate abrasive behaviour of the supervisors and the managers. We do not have anyone that really listen to us and attend other grievances. Under the circumstances the only way we cope with the situation is by accepting that we are faced with the situation due to our own karma. We do not have any other alternative other than accepting the situation and live with it.

Her opinion was shared by almost all other machine operators. Another machine operator added the type of coping strategies used by them.

We cannot change our job functions. We tried to reduce our stress by involving in other activities after working hours. We try to take our mind away from the job. This is why you will find many machine operators having affairs with colleagues. No one would talk about this due to its social implications and the culture. Though none would agree in public this may possibly be the most used coping strategy, among the machine operators.

The critical reflection on the findings from the qualitative and quantitative strands led to the general consensus that any action to considerably reduce stress among apparel factory workers should have the support of factory management. Moving to the next cycle of the project the team members suggested several possible actions to improve the situation. Among the suggestions that were debated and agreed on by the PAR team were presenting the findings of the research to the senior management of apparel factories and conducting the training sessions to the apparel factory workers with the support of factory management. It was expected that a better understanding of the gravity of the problem and understanding the benefits for the organization by addressing the issue would result in management extending the support to take corrective measures in factories.

4.3 Cycle 3

The action cycle 3 planned for the following actions.

- Present the findings from the cycle 1 and 2 to the management of few selected factories.
- Conduct workshops to the workers of few factories including workers from several categories. The workshops covered the areas such as causes for stress, its impact on individuals and the company, possible actions to reduce stress among factory workers.
- Assist on implementing programs prepared by the management of the selected factories in order to mitigate stress among the factory workers.
- Conduct discussions with volunteered workers from the above factories to understand the impact of changes made.
- Collaboratively reflect on the findings.

We presented the findings to the management of five factories. Out of these two factories were keen on educating the workers, especially the supervisors, on the findings and how stress related issues could be mitigated. We conducted two workshops for two factories with the objective of creating awareness of the sources of stress and what can be done to alleviate stress in apparel factories. The following excerpt provides the perspective of a director of one of the companies that we conducted the workshops.

The issues related to pressure and stress experienced by the factory workers is a very complex one. It's two different things to look from outside and when you are actually involved in the operation. On one hand we have to be efficient to improve productivity and make profits. On the other hand we are to ensure the well-being of our staff and meet social responsibility. We have come a long way. We may not be able to resolve all of their problems immediately. However, we agree on the importance of our managers and specially supervisors developing a better understanding of what is actually experienced by factory workers. We believe that it would be a good starting point to conduct these workshops. I am sure it will have a positive impact on all.

The workshops covered the area such as fundamentals of stress, sources of stress in the apparel industry, impact to workers, impact on production, social responsibility, code of conducts in apparel industry. The workshops were conducted in late 2018. In January 2019, twenty workers from the two factories were interviewed to understand the change and impact of the workshops. Almost all of them were of the opinion that a considerable improvement had taken place in the areas of workplace incivility and abusive supervision. However, it was noted that no changes had taken place with relevance to salary, workload and physical conditions. The following is an excerpt of the conversation that took place when I prompted the question what changes had taken place since the workshop was conducted.

Individual A : *Our supervisors have changed the way they address the machine operators. They appear to make an effort to control themselves.*

Individual B : *Certainly it is much better than it used to be. However, it is too early to say whether it is a permanent change.*

Individual C : *As the company management has taken the issues seriously, it is likely to make some impact.*

Individual B : *Even they address the issues of the supervisors, they have not made any effort to reduce our workload or consider a reasonable increase to our salary.*

Individual C : *At least we have achieved something to make the environment better for us to work.*

Reflecting on the findings, most of the team members agreed that many sources of stress such as workload and low salary are not directly controllable by the factory management or supervisors. They had little control over the deadlines and the amount paid by the global brands for the production of a style. The team deepened the understanding on the core reasons for workload and low salary. However, the interviews with the workers of the two factories for whom the workshops were conducted provided evidence that abusive supervision and workplace incivility could be controlled via improved processes and training. The PAR team understood some of the inherent characteristics of PAR projects. Despite improved understanding of the issue, not all the problems related to stress could not be addressed. While some actions led to positive outcome as in the case of workshops leading to lowering abusive supervision, the team did not have required power to address issues related to workload and salary. In the collaborative reflection session the

team decided to interview two manager and two supervisor from the two factories involved in order to understand what further action could be taken to address the issues related to stress.

4.4 Cycle 4

The action cycle 4 planned for the following actions.

- Interview factory managers and supervisors to understand the challenges faced in reducing workload and increasing salary.
- Collaboratively reflect on the complete PAR project.

A factory manager explained the challenges faced as many factories did not adhere to the code of conduct agreed and signed with global buyers. *There is no established process in the company to evaluate the working conditions at the factories. That responsibility is entrusted in the factory manager. He only attends to machine breakdowns and rarely does anything to improve the working conditions. As we get a lot of orders from global brands, they have appointed auditors to check whether we adhere to the agreed code of conducts. Although this process is in place, the auditors do not spend adequate time on the audits. They would just check whether things that are listed in their checklist are fulfilled. In reality, how the audit is done is controlled by the factory owners. Our group has more than 10 factories. There are three factories that are built to international standards. Whenever we get orders from global brands we tell them that the production is done in these factories. However, based on the utilisation of the actual production may happen in some other factory and the final products are sent to the factory that we promise to produce the government and labelling is done there. Whenever audits take place as the three factories that are built to international standards that get audited. Even then they do not thoroughly evaluate the conditions. They only speak to a few select and staff members who are*

already trained on what needs to be told to these auditors. I am sure that the auditors are well aware of this. I believe that these audits are done only in order to satisfy the demands from the end customers to ensure that production is done at places where the workers are properly treated. It does not work practically.

A supervisor with considerable experience in multiple apparel factories added.

I think the global brands are somewhat responsible for the present situation. They never provide adequate time for production. They are well aware when adequate time is not provided the factories will resort to working long hours. This adds pressure to managers and supervisors who are forced to use all means available to get the production done in time. If the deadlines are not met, severe penalties are enforced by the customers. In addition the global brands make factories compete with each other on cost basis, taking the advantage of the multiple locations available for them to get the production done. This price war has resulted in factories failing to earn sufficient revenue to afford a reasonable salary to its factory workers. Therefore, the global brands are collectively responsible for the conditions that prevail in apparel factories.

The session held to discuss the findings from the discussion with factory managers and supervisors included a presentation done by me on the literature available on global supply chain practices in the apparel industry. A critical reflection on the findings led to the PAR team agreeing that issues related to workload and low salary were not in the full control of the factory management. As a catalytic effect of the project, five members of the PAR team considered establishing a NGO to play an intermediary role with the global buyers to ensure factory workers rights were protected. A complete reflection on all action cycles are covered in the reflection chapter of the thesis.

Chapter 5 Discussion

This chapter will provide key findings of the research followed by a discussion of the findings in the light of existing literature. It will then provide the limitations of the study, the implications of the research on theory and practice and the opportunities for future research.

5.1 An overview of the significant findings of the study

The community of the apparel industry workers in Sri Lanka consist of more than 300,000 individuals, who are primarily from poor families in rural villages. Most of them are employed in apparel factories located in free trade zones (FTZ). As captured in the introduction the research searched for the answers to three main questions.

1. What are the factors causing perceptions of stress for factory workers in a Sri Lankan apparel factory?
2. What actions do workers in a Sri Lankan apparel factory take to to cope with perceived stress in the workplace?
3. How can workers in a Sri Lankan apparel factory deal with perceived workplace stress more effectively?

The research highlighted the main sources of perceived stress in the Sri Lankan apparel industry. Further the research studied the coping strategies used by the workers and the impact on the job satisfaction and the intention to leave by the factors causing stress. In general, it is observed that

a very high level of stress is experienced by the employees in the Sri Lankan apparel industry. The possible sources of stress that were reflected by 47 items in the self-completion questionnaire, were categorised into nine factors based on the existing factors of OSI (Cooper, Sloan, and Williams, 1988) scale, OSI revisions based on Dutch studies (Evers, Frese and Cooper, 2010) and factors identified during the literature and the themes emerged during the sessions. Evers, Frese and Cooper (2010) adopted a similar approach when new subscales of coping was introduced revising the scale for the OSI. Then the existing literature was considered on deciding on the new subscales categorising coping methods. The most important finding of the study was that the financial difficulties, abusive supervision and heavy workload contributed mostly to the high levels of stress in the Sri Lankan apparel industry. The sources were identified in the cycle 1 when transcript of the discussions were analyzed and further confirmed by the statistical analysis conducted in cycle 2. It was found that a diverse set of coping strategies were used by the employees to mitigate the effects of the perceived stress. The coping methods used by the community members were identified in the cycle 1 and were implemented into six factors primarily based on the existing factors of OSI (Cooper, Sloan, and Williams, 1988) scale. . They were represented by 25 items in the questionnaire. Quantitative analysis done in the cycle 2 of the study revealed that the compensatory behavior (e.g. Enjoy life outside of work., Expand interests and activities outside work) and the religion support (e.g. Try to understand the situation through the religious concepts such as Karma and accept the present situation). were the most common coping strategies used by the members of the community. Two common outcomes of stress are job dissatisfaction and the propensity to leave. Multiple regression analysis done in the cycle 2 showed that the recognition and the relationship with others were predictive factors

of job satisfaction. The multiple regression analysis used to predict the intention to leave revealed that workload was an important issue in predicting intention to leave.

Having established the sources of stress and the coping methods using both quantitative and qualitative methods, the PAR team reflected on the findings of the research through critical dialogue. This led to further action that was considered as better means of addressing issues related to stress. The actions included presenting the findings to the management of five factories and conducting workshops on stress and coping in apparel factories. This was different from individual based coping methods that were used by the factory workers. The action was more collaborative and would result in much higher impact. It could improve the situation for larger number of workers. With further reflection, several members of the PAR team proceeded to set up a non government organization to collect issues faced by apparel workers and inform global vendors who place production orders to respective factories. Through this action it is expected to enforce minimum working standards in apparel factories that would mitigate the stress among apparel factory workers.

5.2 Findings in the light of existing research studies

The results show that the highest level of stress is observed among the employees performing the supporting activities (e.g. quality controllers, ironing staff) followed by the machine operators. The total stress level perceived by the managers and the supervisors is lower than that perceived by the machine operators and the employees performing the supporting activities. The intention to leave is highest among the machine operators. Employees performing other activities have the second highest mean for the intention to leave. The machine operators in the apparel production lines are forced to work at a predefined pace in order to meet production targets and deadlines. In

most cases each machine operator performs a particular function in a production line. This makes the work very repetitive. It is noted that any slow down by an operator will affect the production speed of the entire production line. Working in such an environment for many years will lead to emotional exhaustion, depersonalisation, and reduction in personal accomplishments (Maslach, 1993; Maslach and Jackson, 1986). This may result in possible burnout. Burnout may lead individuals to leave the job. This explains why more than 80% of the apparel workers are less than 35 years of age.

Financial difficulties, abusive supervision and heavy workload were perceived by the community members as the most stressful factors. The only previous research in Sri Lanka to identify the factors causing stress among apparel factory workers was done by Fernando *et al.*(2010). That research identified low salary, lack of supervisory support and the culture as the factors causing stress. The current research confirmed the financial difficulties as the most affecting factor. Fernando *et al.*(2010) did not study abusive supervision and workplace incivility. Instead, it captured lack of supervisory support as a key factor causing stress. The salary and the total earning of the employees in the Sri Lankan apparel industry is very low leading to considerable stress. As a percentage 41.94% of community members considered financial difficulty as a definite source of stress. The item was the single most stressful, based on the perceived stress levels by the participants. The finding confirms the results of Dey *et al.* (2017), that found a positive association of low salary with stress in apparel factories in Bangladesh. The salary is considered as low by the employees for two reasons. First, the amount paid is low in absolute terms and is insufficient for them to live a reasonable life. Second is the effort-reward imbalance situation. Despite the reward being low, the factory workers are not in a position to lower the effort as they would not be able to face a laid off situation. A low salary or inadequate reward is

preferred to losing the job. Siegrist's (2002) Effort-Reward Imbalance (ERI) model is applicable for occupations similar to apparel factory workers, whose jobs are highly constrained and job mobility is limited. Their condition is chronic in that they keep coping being aware that the condition may not improve. ERI model is based on the principle of reciprocity. In working environments where employees have to cope with demands such as workload, time pressure and deadlines they expect reward in return. If the reward in terms of salary and benefits is not comparable to the expectation, it leads to stress. It is usual that the employee will react by adjusting his performance level. However, in paced production lines in the apparel industry, such adjustment to the performance is not possible. They are left with no other alternative than keep coping. This results in the stress become chronic and possibly leading to a situation of burnout.

Heavy workload is considered as a source of stress among many industries. Heavy workload leads to increase in stress (Sutherland and Cooper, 1993; Cooper, Davidson and Robinson, 1982). The results of the present study are consistent with the findings of these researches. A 40.65% of the participants marked excessive workload as a definite source of stress. Sparks *et al.* (1997) noted that the relationship between the number of hours worked and stress was nonlinear and those affected mostly were the employees that worked more than 48 hours a week. The learnings from the present research show that more than 88% of the factory workers in the apparel industry work more than 46 hours per week. It is noted that the total stress level increased with the increase of number of hours worked for a week. Further, a very low number of hours also associated with higher levels of stress. This is known as quantitative underload. Stress from qualitative underload of work results from associated routine monotonous nature of work, boredom and lack of challenge. (Kelly and Cooper, 1981).

Many items under the category of workload were considered stressful. From the participants that completed the self-completion questionnaire, 36.13% indicated having to work with long hours as a clear reason for stress. The deadlines for the orders and the time pressure were highlighted as essentially stressful by 35.48%. Unlike Folkard (1996), who claimed that shift work led to various issues in families and caused stress, the present research had relatively smaller percentage of 25.16, that considered shift work as a clear source of stress. Also, 29.68% considered repetitive functions such as hand movements as very stressful.

Abusive supervision is a factor that has reached levels far beyond what has been experienced in other industries. The apparel industry is generally associated with sweatshop conditions (Emmelhainz and Adams, 1999). Long working hours and the abusive supervisor behaviours are part of sweatshop conditions (Ho, Powell and Volpp, 1996). In a review done on the articles published on abusive supervision by Tepper *et al.*(2017), it was approximated that 10% of the employees across industries suffer from abusive supervision. In the present study 35.48% indicated that they were subjected to aggression from their supervisor or personal harassment in the form of unkind words or behaviour. A further 34.19% indicated the abuse from supervisor as a clear source of stress for them. An alarming 32.9% considered the physical aggression from supervisor as a clear source of stress. The statistics suggest that the workers from the apparel factories in Sri Lanka is a community that suffers mostly from abusive supervision. However, it should be noted that the present research refers the perceived abusive supervision and workplace incivility. In other words, the actual levels of abusive supervision or workplace incivility are not measured in the study. While a high majority agreed on the negative effects and stress resulting from abusive supervision, there was a difference in the opinion expressed by several individuals. They believed that a degree of abusive supervision was required in order to ensure that the

deadlines were met. This deviating opinion was in line with a study done by Lee *et al.* (2013) that claimed the presence of an inverted U shape relationship between abusive supervisor behaviour and employee creativity. They believed that the abusive supervision was a part of leadership style that was unavoidable in factories of the apparel industry. Only a very limited amount of studies supports this stance. One such study was conducted by Bies *et al.* (2016) that claimed an increase of productivity resulting from abusive supervision. Apart from the statistics, the discussions held with the participants revealed that the line which an employee separates abusive supervision from abrasiveness of the supervisor is dependent on factors such as the behaviour of the supervisor, the characteristics of the subordinate as well as the background and the reasoning for the incident.

The findings based on past research have been inconsistent with regard to type A behaviour pattern (TABP) acting as a moderator of the relationship between stress and strain. Moyle and Parkes (1999) and Payne (1988) found that a relaxed approach results in much lower levels of psychological strain than TABP. The current study does not support the notion of higher levels of strain or stress being observed by individuals with TABP. There may be other factors that were not studied in this research yet affect how an individual perceived stress.

The creation and the classification of coping strategies was done both deductively, using existing literature, as well as inductively based on what strategies the participants were using. It should be noted that the present research captures the frequency of the use of a given strategy and not the effectiveness of a given strategy. In addition, self-reporting scales were used. In general, it was established that the participants were using more emotion focused coping strategies rather than problem focused coping strategies.

Most of the frequently used coping strategies were categorised under the compensatory behaviour or the religion support. Many of the compensatory behaviours such as resort to hobbies and pastimes, expand interests and activities outside work, find time to relax and enjoy life outside of work are related to leisure. The leisure plays an important role in coping with stress. Among the roles played by leisure includes the positive diversion of time out of work, providing an opportunity for energising and renewal, enable the required resilience and the capacity to proactively cope with stressful situations (Iwasaki, Mactavish and Mackay (2005). The leisure can be used in order to compensate and distract (Trenberth and Dewe, 2002).

Religious coping helps to cope in very stressful situations. Buddhists believe that what they experience is a result of the past Karma, in other words, good or bad things a person had done in the past decides the present situation to some degree. Religious coping can be described using meaning, control, spiritual comfort and intimacy (Paragment, Koenig, and Perez, 2000). Use of religious coping entails individuals enduring and finding the meaning and purpose (Folkman and Moskowitz, 2004) Internally targeted attempts to control stress is evident in coping methods used by the Buddhist influenced beliefs (Tweed *et al.*, 2004). The principles of Buddhism advocate the control of desire in order to free oneself from the suffering. Buddhism looks for the root cause and does not promote the reduction of symptoms through the active efforts. This internally focused coping method is evident in the present research where workers were not focussed on coping through direct confrontation. Religious coping may be an indirect result of the inability of the workers to apply their preferred or most suitable coping methods as they do not have the required power, resources or skills to use the most suitable coping method. While religious coping may be harmless and in fact settles the mindset of the worker in most cases, at times it may result in negative consequences. A person may consider that he had done too many

bad things in his past lives and he deserves the present stressful situation he is faced with. This may result in the person not attempting to address the situation as well as the depletion of internal resources.

More effective and problem focused task strategies were not used frequently. According to Kinicki *et al.* (1996) review, the choice of coping strategies is affected by environmental and personality variables. However, the present study did not find a difference in the coping strategies used by different personality types. Coping can act as both an independent and the dependent variable. A coping strategy can perform a role of a mediator. The discussions with the participants of PAR generated additional coping methods such as finding partners from factories and nearby boarding places for close relationships. However, such coping methods could not be studied as the participants were not willing to openly discuss or accept the use of such coping methods due to cultural and social pressures.

The overall job satisfaction of the apparel industry workers remained very low. The model could predict 34.6% of the variance in job satisfaction. The recognition and the relationship with others were the only factors that could predict the job satisfaction.

The only factor that could predict the intention to leave was workload. This contrasts with the previous research done on the apparel industry. In a study done in the UK clothing industry Taplin *et al.* (2003) established that low pay, payment related work method, the size of the organization and industry image as the key reasons for employee turnover. In a study involving apparel workers in a Sri Lankan factory, Liyanage and Galhena (2014) noted that high turnover was due to residency, social image and civil status. The present study established low salary as a

factor that caused the highest level of average stress. However, it was revealed that low salary was not the leading factor in employee turnover/ intention to leave.

There is a general perception in Sri Lanka that the heavy workload and abusive supervision is widely present in the apparel industry. Further, the industry is known for very low salary scales. Consequently, many individuals join the apparel industry knowing that there would be challenges. When they experience the issues of abusive supervision and low salary it is unlikely they are taken by surprise. Consequently, these factors are less influential in their perceived job satisfaction level and intention to leave. They are coming from low income families and their education level is very low. This results in them from comparing the present income with no income at all. Further, there is little or no other alternative job opportunity. This reduces the gap between the expectations of the employee and what they actually receive. This reduction in the imbalance between the expectations and actuality leads to a lower level of statistical relationship between low salary, abusive supervision and job satisfaction.

5.3 Limitations of the study

The present research has only focused on identifying the coping strategies presently used by employees in the apparel industry in Sri Lanka. The frequency of usage of a particular coping strategy does not reflect its effectiveness. It is recommended that the future study would focus on finding the most effective coping strategies that are suitable for the apparel industry.

While it is likely that the stress perceived by employees in this research, and its impact on job satisfaction and intention to leave, applies in the apparel industry in other geographic locations this is not claimed. Further research in other workplaces and/or countries is necessary to establish the generalizability of the findings of this study.

5.4 Implications of the study for professional practice or applied settings

PAR has an emancipatory emphasis and focussed on oppression problems faced by a community. The present research focused on the sources of stress, the coping methods and the implications of the stress among apparel factory workers in Sri Lanka. In case of PAR, the relationship between the local participants and the researcher remains active. This creates an environment for the participants to go through a learning process and find the answers to their own problems. In addition, the researcher becomes a stakeholder who plays a professional role through engagement rather than being a distant and objective judge. The complete process of PAR is iterative. A given cycle includes the steps of understanding a particular issue through questioning, reflecting on the issue, developing an action plan and implementing the plan. The cycle of reflection, investigation and action repeats with the improvement to the existing situation in every cycle.

This PAR project was initiated by the researcher. The community was represented by 25 apparel factory employees that volunteered to be part of the study. Overall, the project led to mutual learning and assisted in improving the lives of many apparel factory employees. The participants did not have any knowledge of PAR or conducting any form of research. They benefited by gaining knowledge on conducting PAR as well as how to collectively resolve problems. Participants did not have any prior experience on analysing workplace problems. The present study gave them the opportunity to improve their critical thinking and collaboratively find answers to stress-related problems. The researcher improved his knowledge on the contextual importance of stress and first-hand experience on working with participants with limited theoretical knowledge. At the beginning of the project the participants believed that abusive supervision and very high workload were common among many industries. With the project

progressing, the participants realised the situation they were faced with was less common and a high level of abusive supervision was unacceptable. This was an eye-opener for them and they started realising that they should work towards improving the situation collaboratively. The discussions helped the supervisors to understand how their leadership style affected the subordinates and specially the machine operators. The supervisors were initially of the opinion that abusive supervision was an acceptable practice where production lines operated. However, when they realised the level of abusive supervision was extremely high compared to other industries and countries that attitude changed. The discussions provided a platform for machine operators and supervisors to put forward the issues as well as justification for their actions and communications. The ongoing discussions helped different parties to understand each other. The research contributed to the general theory by adding the contextual nature of the sources of stress in the apparel industry of Sri Lanka. It established abusive supervision, financial issues and very high workload were the main causes for high level of stress in the apparel industry of Sri Lanka. It further added new coping strategy where the community members tried to interpret the situation through religious concepts such as karma thus mentally justifying the stress experience as they were going through. Thus establishing the importance of considering the local culture and context in case of studies related to occupational stress. It further added the importance of recognition for increased job satisfaction. The study established that workload was a key factor on the person deciding to quit the job. The actions taken based on the findings included providing training to supervisors and other staff on stress and supervising without abusive behaviours, improving the understanding on stress and coping methods, training the participants on the principles of PAR making it viable for them to find their own solutions to the problems.

5.5 Recommendations for further research

Due to legal restrictions and the unwillingness from the participants to discuss health issues, the present study did not capture the information related to physical and mental health. Future research should consider physical, physiological, psychological, and behavioural health and well-being implications of stress among factory workers of the apparel industry. As the level of abusive supervision is much higher than that has been observed around the world in many other industries, future research should look for the reasons of abusive supervision in the apparel industry and how to mitigate the negative consequences. The present research has not found any difference in the manner that stress is perceived by employees with different personality types. However, the participants believed that not all personality types can cope with the workload as well as the general environment in apparel factories. Consequently, it is important that future research studies consider personality traits other than type A behaviour. Further, it would be of importance for apparel companies to understand the appropriate leadership style in order to achieve the targets without abusive supervision. This requires future researchers to pay attention to the appropriate leadership styles for the industry. It is found that the relationship between role stressors and psychological strain is moderated by the clarity provided by the supervisor. Finally, as the factors considered in the present study cannot explain the reasons for job satisfaction and intention to leave to an adequate degree, future studies can focus on finding the causes for job satisfaction and intention to leave.

Chapter 6 Reflection

Action research deviates from traditional research in several areas. Action research considers action as the central part of the research. In contrast, traditional research is more inclined towards theory formation. While the action research takes place at the research setting, the traditional research takes a more distant approach. Possibly, the most important difference in action research is the participation of the research subjects in the research process. The level of participation may differ based on the form of action research being used. PAR is at one end of the continuum where the tacit understanding and expertise of locals is used in conjunction with the research and theoretical knowledge of the researcher in order to solve the problems of a given community. PAR principles are in line with that of Freire (1970). PAR is aimed at helping oppressed groups to resolve the issues that community believes was high priority. Freire (1970) called them generative themes. PAR is an emancipatory practice. Traditional action research tends to address issues related to efficiency and performance improvement. In contrast, PAR pays attention to equity and oppression problems. Further, traditional action research users group level analysis while PAR is concerned with society level analysis (Brown and Tandon ,1983).

The PAR process is recursive. It is made of the following steps (McIntyre,2008)

1. questioning the issue
2. reflecting on the findings and investigating
3. developing an action plan

4. implementing the plan

It undergoes many cycles of the above steps. Each cycle is intended to improve from the previous situation with better understanding of the problem. Research and action become a single process in PAR projects (Schutter and Yopo, 1981). Although action is given as a separate step in the PAR process, in reality every step has action involved. Action is defined as any effort that is taken to remove any impediment negatively impacting the growth of a group of people (Kidd and Kral, 2005, p.189) in case of PAR. The action can take various forms such as improving the understanding, developing a new skill, preparing a report, having a discussion etc. This chapter provides a reflection on the steps and action taken during the research.

6.1 The entry process and creating participatory structures

Participatory action research is done in many forms based on the nature of the participation /collaboration. The participation of the researcher can take the forms of co-option, compliance, consultation, cooperation, colearning, collective action (Cornwall, 1996). In its best form, research conducted by inside and outside teams in the collaborative manner, where both parties are working together to achieve the objectives. However, progressing to a stage where insiders and outsiders collaborate, requires considerable amount of trust building. This takes a very long time and may not be possible in cases where the research is done as a part of an academic program. The trust building can become easier if the researcher has some relationship to the community or an insider. I previously worked for two years as a CIO for an apparel group of companies in Sri Lanka. Therefore, I had an understanding of the apparel subculture in Sri Lanka as well as internal operational mechanisms of apparel factories. However, I had never worked in apparel factories and my familiarity was not to the extent for myself to be considered as an

insider. Yet, I am more an insider than an outside researcher who is completely alien to the community and the context. I consider myself as an outsider within (Collins,1990). It is usual that PAR projects are initiated by the members of the community in order to address issues they consider as important. Most studies done as part of an academic programs are initiated by the researcher.

The present research was conducted as a PAR project that was initiated by the researcher. Among the researcher initiated PAR projects, Alice McIntyre (1995) explored the experience of white teachers who taught students of colour. In another study Caitlin Cahill (2005) conducted collaborative study with the participation of young women of colour to explore the experience in urban neighbourhood.

Having obtained the ethical approval to proceed with the project, I started building my relationship with factory workers employed in the apparel industry of Sri Lanka. This relationship building was not easy and was taking considerable time and effort. Initially, I was supported by few individuals I knew from the time I worked in the industry. We invited many others to join the project, having explained the objectives and benefits of such a project to the participants and the community as a whole. I was looked at from different perspectives by individuals. Some were of the opinion that I was an agent of the factory owners, who wished to find the behavioral patterns of the employees. For others I was an outside researcher, who wished to get my research completed to obtain a qualification. Most of the invitees joined the preliminary discussions only because they were provided with food and an opportunity to get together. The situation generally improved with time as they realized it was an opportunity for them to learn research methods and improve critical thinking to resolve their own problems. They began to appreciate that it was a mutually beneficial project. In four months, we managed

to increase the total number of participants to 25. The PAR process usually depends on the members of the community, with a research problem based on their context and interest. However, the same could not be followed as the present research is a part of a DBA programme. This raised the question of the appropriateness of PAR as the research method for the present study. Despite not initiated by the community members themselves, the PAR approach was used due to several reasons. The study was focused on an oppressed community in the society subjected to unequal power relations (Freire, 1970). It was an emancipatory approach (Habermas, 1971) to relieve the community members from a serious issue they were faced with and ensured the participation of the members from the community in all phases of the research. The knowledge of myself was used in conjunction with the expertise of the locals of their own problem and solutions. Compared to other traditional action research approach, PAR promoted emancipatory approach and focused on social justice more than improving the efficiency of an existing practice.

Being a researcher initiating PAR, I had some control over what was going to be studied and the process of the study. This had a different power position from studies that were initiated by the community members. This was compensated to some degree as I had been an employee of the apparel industry in the past. I was well aware of the issues related to stress among the community members. The issue of stress is a shared problem among the members of the community. The identified problem was presented to the participants who agreed on the topic as well as its importance to the workers in the apparel industry. A discussion was held with the participants to discuss the issues faced by the community members. It was evident as all the participants shared their views on the issues faced by the community members and considered stress as one of the most important issues to be addressed. Despite the importance attributed by the community

members, only a very limited number of studies done on the stress experienced by the apparel factory workers in Sri Lanka. They were limited to quantitative studies using short questionnaire. They were inadequate in both the quality and quantity. Deepening the understanding of the area required a research method that facilitated much richer understanding of the concepts and allowed space for the members of the community to directly participate in the process deepening the understanding and improving the situation.

One of the most important aspect of initiating the study was to negotiate how the members of the team would participate in the study. This became an ongoing negotiation as at the beginning, the participants did not have the required level of understanding on how a study of this nature was conducted. They had never been part of a study and the level of education meant they had not learned of research process either. This was challenging in the light that in case of PAR, the participants were expected to become researchers. The member participation limited to some phases of the research reduces the catalytic validity of the PAR project. Therefore, it was decided that all the participants should play an active role throughout the project. The participants of the PAR project get involved in critical dialogue and collective reflection. This results in a dialectical process that changes the researcher, the situation and the participants (McTaggart, 1997a).

The Democratic validity of the project increases with the participation of different individuals improving the diversity of the opinions. In order to achieve the diversity of employees, individuals working at different levels of the hierarchy performing different tasks were invited to participate in the project. Two training sessions were conducted for the participants to improve their skills in the area of research to ensure that the participants were ready to contribute to the project.

Most of the participants had very limited education. Their language skill was poor and required my assistance to properly express what they had in their mind on many instances. Working with members of a community with limited knowledge and learning skills presented a set of challenges. All communications had to be done in the local language 'Sinhala'. The translation of the findings from the study to English took considerable effort as the meaning had to be retained while making use of already established language on workplace stress. There existed a gap between what some members intended to communicate and the real communication. With more dialogue taking place among the participants they gradually settled to the usage of a common set of words that were more in line with the already established language on workplace stress.

6.2 Participation, reflecting on the findings and investigating

Sessions were conducted with the participation of myself and the participants at a factory meeting room. This was facilitated by one of the factories that was keen on supporting the study. Ten such sessions were held.

The responsibility of obtaining the maximum participation and use of their skills of every participant was with me. Despite every effort taken, it was not possible to get the same level of participation from each member of the team. The level of participation of each member changed during the period of study. In most cases this was due to personal, family and work commitment of the individuals. It was decided that the team members would not be removed due to absence in one or two sessions. Other individuals working with the absent members updated them on the progress.

During the sessions, each participant was asked to describe what made them stressful and describe them of any events and examples they could provide. Based on what they said, I

assisted coding the factors in the wider context of occupational stress. The themes were identified and grouped into general categories based on the feedback from the participants and the findings of the literature review by myself. In other words, I positioned on description provided by the participants within the standard usage of terms in published materials. Each factor causing stress, that was identified by the participants was described back to them including the parts of the transcripts that were used to identify the factor. The participants strongly suggested that the analysis of the collected information that resulted from the sessions was done by myself. They felt they were not in a position to do the analysis as they lacked the required expertise and knowledge to do the analysis. Once we had collectively identified the factors causing stress, I presented them a comparison between what was identified during our sessions and the findings from the literature review. The discussions on the comparison led to the general consensus that we needed to expand the areas of workplace incivility and abusive supervision. The discussions were full of arguments, disagreements, storytelling. Most of the disagreements were centred around abusive supervision and workplace incivility. A clear division was visible between the machine operators and the supervisors. What was described as abusive supervision by most of the machine operators were interpreted as part of leadership style by the supervisors. While the machine operators and many others believed on the negative impact of abusive supervision, the supervisors were of the opinion that a specific type of leadership style adapted by them increased the productivity. The general view of all participants at the end of the sessions was that the study made them question themselves, how they felt, why they felt that way. In other words, the sessions made them question their perception of stress which most participants mentioned they had not been doing despite experiencing stress on daily basis. Some of them mentioned that thinking of the issues they were facing at the workplace on their own increased

the mental fatigue. Yet, when the issue was discussed in a collaborative manner it provided them an opportunity to express themselves and tell their story to the others. The sessions improved the critical thinking of the participants and their knowledge on workplace stress.

Critical dialogue was held with the participants to uncover the coping strategies used by them. An approach similar to identifying the factors causing stress was used in case of finding coping strategies. There were differences in opinion what was really meant by coping. There were many that claimed that coping was unintentional reaction from them to go on in their life. An introductory session was conducted to the participants to educate them on what was meant by a coping strategy and what were widely used coping strategies by employees. The session helped the participants to reflect on their actions and identify the coping strategies used by them. However, the machine operators were of the view that they could not use coping strategies that they thought were the best. In other words, there was a gap between the intended coping method and what was actually used.

Several participants mentioned that one unwritten and unspoken coping method was having affairs with colleagues. This was an area that most other machine operators were reluctant to discuss. The local culture does not advocate young females getting involved in close relationships with many individuals. Most of the participants believed that the coping is used by the workers were driven by the culture, religion and the inherent attributes of the apparel industry. The common acceptance was the very nature of the job did not provide the control or authority to workers and restricted the coping strategies available for them. Having analysed the content of the discussions, the team was presented the coping strategies used by them and the coping strategies that are found from the literature survey.

The dialogue covered the role played by the factory owners and the global brands to ensure proper working conditions for the factory workers. Most of the participants agreed that adequate measures had not been taken by the factory owners or the global brands to address the issues of working conditions in apparel factories.

The impact of personal differences and other demographics on perceived stress was discussed with the team. The common opinion was that the employees that joined the apparel industry were from a particular stereotype and it was unlikely that a considerable difference of personality type would exist among the workers. Most of the participants shared the opinion that how stress was perceived would not depend on personality type for this reason. Many described that a considerable gap in the experience existed among different jobs in the apparel industry. Therefore, it was more likely that how they perceived stress, the level of stress as well as the coping strategies were dependent on the job category.

Everyone agreed that it was better to confirm the finding of the team by obtaining the data from a larger group. Such approach would increase the democratic validity of the research. Use of both quantitative and qualitative methods entails overcoming the limitations of each other approach and adds clarity to concepts and phenomena under study. The values, interests and the assumptions of the researcher is likely to impact the selection of the research methods (Kingry-Westergaard and Kelly, 1986).

For this purpose, questionnaire was prepared based on the instruments that had previously being used including additions from the findings of the present study. The questionnaire was prepared by myself as they believed I was better prepared to do the same. Once prepared, the questionnaire was discussed with the team and agreement was reached. However, the team

objected the inclusion of any item related to having affairs with colleagues, physical and mental health. Most team members mentioned that inclusion of these items would result in other participant's unwillingness to complete the questionnaire. It was very unlikely that they would provide accurate information if we included the questions related to health and close relationships. The unwillingness to openly discuss or accept that they were involved in actions considered as an ethical and culturally unacceptable was evident. They raised possible legal and practical issues of including any question related to mental and physical health. The team decided to omit health-related questions in the questionnaire.

The team actively involved in finding new participants to fill the questionnaire to obtain adequate numbers to do a statistical analysis. The team assisted in explaining the questionnaire to the relevant individuals. The analysis part of the completed questionnaire was entrusted on myself. I presented the findings to the team and had a session to review the findings. During the critical dialogue most of the participants described the change they had undergone during the study. At the beginning of the study most of them of the view that stress was an inherent attribute of the apparel industry and there was little or nothing that they could do to mitigate the impact. With the progress of the study the thinking had changed drastically and the team believed they should work on solutions to mitigate the stress experienced by the members of the community. They developed critical thinking had enabled them to reflect on their own thinking and action. They believed that if the findings of the study were presented to their management there was a possibility to take corrective measures to mitigate the impact of stress.

As noted by Thompson and Gunter (2011), my position in the research was fluid and shifted from the position of an outsider to an insider at various times. This was mainly due to the fact that I had prior experience in the apparel industry. Consequently, I had my own opinion when it

came to certain matters. However, the study can be classified as a PAR project that was done by an outsider in collaboration with the insiders. This is a position adopted by many other PAR projects initiated by a researcher. The studies of Nygreen (2006), Cahill (2005), McIntyre (1995) adapted the same approach. Other than the position, my role in the research kept changing from one to another. On many times I had to play the role of a coach or a teacher. Other times I was a participant. In some other instances I played the role of a researcher. The shifting positions and the role was a unique aspect of PAR where I collaborated with the representatives of an oppressed community with limited knowledge on research and limited academic background.

One very important aspect of PAR project was reflexivity. Reflexivity entailed critically looking at myself specially in the areas of ability to listen to others. I started questioning my own assumptions. Further, the analysis and interpretation was critically reflected on..

The study produced both local and public knowledge (Cochran-Smith and Lytle,1993). The present study generated new local knowledge that was infused back to the community enabling them to continue on working on solutions related area of stress experienced by the apparel industry workers. Further, the research contributed towards a conversation between the community members and academics. This will encourage other researchers to focus on the issues faced by the community of apparel industry workers in Sri Lanka that will help them to improve their living standards. The use of PAR for the study allowed the research to be conducted in a context where other community members lived and worked. This is a shift from the traditional research conducted where theory formation was an exclusive skill and right of the academic.

6.3 Action and change

PAR projects consist of a spiral of self reflective cycles. Each cycle is made up of plan, act, observe and reflect stages (Kemmis and McTaggart ,1987). In reality, the stages of a given cycle cannot be exactly separated and are more open, fluid and responsive (Koshy *et al.* ,2011). In case of PAR projects, action is considered as any activity taken or anything done towards mitigating the issue faced by the community. Action is not limited to the act stage of the reflective cycles. Action is being taken throughout the study. The actions taken in this study included improving the understanding of the factors causing stress in the apparel industry, understanding and learning coping methods used in the apparel industry, educating the participants on the principles of PAR, educating on research in general, improving their understanding on the notion of stress, improving the critical thinking skills of the participants, creating a critical dialogue among the community members on workplace stress and conducting sessions on the findings of the study to the management of several apparel factories.

It was a case of taking actions throughout the study with the objective of improving the situation for the community members. This is different from other research methods that is focused on finding something new to be added to existing discourse at the end of study. The objective of PAR is focused on the principles of emancipation where attempt is made to mitigate the impact of the problems faced by an oppressed community members. The study helped the members of the community to acquire necessary skills to resolve their own problems and reduce the reliance on outside experts. The study deepened understandings of the participants and moved them towards taking further action to reduce the impact of stress.

During the sessions conducted to discuss the findings of the research, many actions were suggested by the participants. Not all the suggested actions are practical to be implemented. The PAR team did not have sufficient resources or the power to implement many of the suggestions. For example, there is little we could achieve by recommending their apparel companies to respect and adhere to the law of the country and the international practice by bringing the issues related to abusive supervision to the attention of law enforcement agencies. However, most of the team members agreed that presenting the findings of the research to the management of apparel factories and explaining them the advantage of addressing issue would be more productive.

Two workshops were conducted for two factories covering the areas such as fundamentals of stress, sources of stress in the apparel industry, impact to workers, impact on production, social responsibility and codes of conduct in the apparel industry. The subsequent interviewing of twenty workers to verify any improvement established that they had experienced an improvement in the areas of workplace incivility and abusive supervision. However the issues related to salary, workload and physical conditions were not noticeably improved.

Discussions with managers of the apparel factories and critical reflection on existing literature led to the understanding that the issues related to workload and low salary were not under the full control of factory owners and management.. Sri Lankan apparel factories are used by many global brands to produce their garments. Many global brands and large retailers like Gap and Walmart make use of the cheap labour available in developing countries and lack of proper legal system to obtain the price advantage producing garments at low cost (Arengo, 2019).

A survey done by International Labour organization (ILO) in 2017 it was found that the purchasing practices of global brands negatively affected the working conditions and the rights of workers in the apparel industry. The purchasing conditions such as contracts between buyers and suppliers, insufficiently lead time for production, prices even in submission to cover production cost, requirement from buyer to meet social standards without adequate support from buyers, unclear product specifications has resulted in problematic working conditions and worker rights (International Labour Organisation, 2017). Among the impacts on workers were lower wage, working conditions, excessive and a regular working hours, unrealistic deadlines, abusive supervision and management and stable employment (International Labour Organisation, 2017).

There have been several efforts taken by developed countries to address the issues related to sweatshop conditions prevailing in the factories where production of the brands belonging to the country take place. Among them are encouragement to disclose where in their garments were manufactured, conduct audits on the factories on regular basis in order to ensure appropriate conditions were maintained by the factories and code of conduct was adhered (Arengo,2019). It was noted that the audits were not transparent and conducted in a very short time making it impossible to ensure proper verification (Arengo,2019).

Sri Lanka is not considered generally as a country that is affected by sweatshop conditions in its apparel factories. In fact many apparel groups in Sri Lanka have taken measures to keep the situation much better than that of Bangladesh, China, India, Indonesia and many other countries that have been widely publicised on issues related to sweatshop conditions. However, the situation in Sri Lankan apparel factories is far from that is observed in Europe and developed countries. Therefore, it should not be considered that Sri Lankan apparel industry has reached an acceptable level on this regard.

.A research of this nature cannot expect to remove all impediments to reduce stress among apparel industry workers or even to alleviate the workplace stress among apparel industry workers in the country. However, it can start an important dialogue among the individuals with power that can lead to action which would improve the present situation. The participants of the present research did not have the power or the resources needed to effectively address the issue. Despite the limitations the participants can act as the catalyst for required change in the industry to improve on the present situation.

6.4 Learning for myself

This research started as a requirement of the DBA programme. Among many other reasons to choose the topic of perceived stress among apparel workers in Sri Lanka, I believed that the research would entail contribution towards the improvement of the working environment. Having previously worked for two years in the apparel industry, I had my own perception on the context of apparel factories and the workers. When the sessions started and participants contributed sharing their experience, I realised that a considerable gap existed between the way I had interpreted the plight of the apparel workers and the ground reality. I believed that the factory workers were primarily from the villages and had low level of education. I was aware that they were from poor families. While my fundamental understanding was accurate, with the research progressing, I realised that they represented socially neglected, suppressed and used members of the society. The issues that they were faced with were much more complex and knotty. My increased understanding of the problem led to the creation of my own view of the problem. My view is a mix of what I experienced when I worked in the apparel industry and the image created by conducting the research with PAR team. Being the researcher, this would have resulted in the research carrying my values to some degree. However, use of quantitative

methods to analyze the information would have added objectivity and validity to the results. The studies that had been done on the stress in apparel industry had taken a distant theoretical approach using quantitative methods. This had failed to portray the right picture of the situation and has resulted in the de-prioritising and failing to attract the right level of attention from the researchers, the society, the government as well as from global brands. In particular, a quantitative analysis alone could not add the right amount of details and the richness required to depict the true situation. While I still believe that social research should add something new to the existing literature, I have become a firm believer that social research should also make the lives better of the people under study. While new findings are intriguing to the researchers on a given subject, it may not necessarily contribute towards betterment of society. The community of the apparel workers is an example of a suppressed community in the society whose problems are not genuinely addressed through research. Finding answers to the issues faced by the apparel industry workers, required their direct involvement in the research. The tacit understanding of the context and the first hand experience of the workers could not be obtained simply through discussion or analysis of questionnaires. The answers to their problems had to be initiated by the members of the community themselves. The researcher could facilitate organising the thinking, enabling them on the techniques, improving their critical thinking ability etc. Above all as a researcher I believe that bringing their story to the surface would result in more attention to the issues faced by the community. The research has resulted in myself questioning my role as a researcher, a professional and more importantly as a member of the Society. I believe that the researchers should ensure the inclusion of the other (Habermas ,1998) and research done on the issues faced by your community. In other words, the research should be done in a collaborative manner giving due consideration to the ideas of the community members. While allowing the

inclusion of the other, the use of PAR as the research methodology allowed making the invisible visible and bringing the margin to the center (Reinharz, 1992, p. 248).

The research improved my ability to interact and integrate with members of the society that share a different set of beliefs, practices, background and values. I have become more receptive towards opinions and beliefs that are very different from those held by myself. I had the opportunity to train and conduct workshops for the apparel industry workers. I gained a different exposure and experience of training individuals with low by academic background. I have deepened my understanding on the factors causing stress in the apparel industry and possible solutions. I have come to realize that issues such as stress in a community are very difficult to be addressed. While many reasons for stress such as heavy workload and low salary were difficult to be resolved in a short time, some of the reasons could be addressed by the management. They include abusive supervision, workplace incivility, physical working conditions. Addressing these issues with management required dealing with power, convincing, understanding as well as compromise. The owners and management looked at the problem from the view ‘ what is there for the company, by resolving the issue?’.

The problem is complex and knotty. I have understood that in action research it is not possible to expect that the final answer would resolve all issues. What could be achieved was an improvement to the original situation and create a catalytic effect that would continue to improve the situation with further action cycles.

Conducting the research for the DBA programme has improved many of my skills. It has given me the ability to resolve problems through continuous improvement. I have become more confident of my problem solving ability. Further, as a researcher and a practitioner, I am more

capable of critically reflecting on my own actions. In fact, critical reflection has become a habit of life. Not only I am more aware of my capacity for learning but I also have learned to learn from practice as well as by means of traditional methods. Having used mixed methods, I gained skills of using both quantitative and qualitative methods in an integrated and complimentary manner. My perception on action research and participatory action research in particular has changed from merely a research methodology to a pragmatic approach that could be used in everyday life to resolve many issues faced by professionals and many other community members.

I have developed required skills to conduct action research, a process which is messy and complex than traditional research methods. Conducting action research cannot be learned from books and requires experience of conducting such research in contexts where unequal resource and power distribution prevails. The experience gained would be useful in conducting many researches in future.

6.5 Learning for others

This research has deepened the understanding of the participants on stress perceived by apparel industry workers. They reoriented their view of the role they should play on addressing the issues related to stress. The increased understanding of the issue made them take multiple actions. Some of them will continue on this effort of change by establishing an NGO. It is a clear indication of participants getting energised with the increased understanding of reality and determined to transform it. This increases the catalytic validity (Lather, 1986, p. 272) of the research.

The participants gradually increased their problem solving skills and built their confidence on their ability to find answers to their problems. In addition, they had the opportunity to participate in a research that would benefit the community and themselves. The knowledge that would be useful not only in resolving issues related to stress but in many other areas. Their exposure to critical thinking and reflexivity will help them to improving in any activity they would pursue in future.

Most of the participants claimed that they could understand issues much clearly and be involved in a discussion without feeling not competent to discuss on the same. They directly attributed the development of skill to the present research.

6.6 Ethical consideration

PAR project involved apparel workers belonging to different categories. Among them were machine operators as well as supervisors. The sessions provided an opportunity for machine operators to express what they experience at the workplace. The supervisors at the opportunity to understand how the machine operators felt when they were aggressive. Despite the differences in opinions the project provided a platform for communication and understanding. While being a researcher I had to play an objective role, it was equally important to fulfil the ethical commitment towards the oppressed community members. It provided a challenging situation where the balance had to be reached between research ethics and ethics practised as a human being. The objectives were not mutually exclusive as PAR is expected to address social issues faced by the oppressed communities.

Chapter 7 Conclusion

This project has been a journey which has changed me considerably. In addition to applying theory to practice, I have learned how to create new knowledge from practice. I am capable of critically reflecting on my own actions and improve on them. My confidence on the ability to resolve problems has increased by many folds and I am well aware of my capacity for learning. I wish to make good use of the research skills acquired through the programme and contribute to future studies.

The present study adopted PAR methodology to study the factors causing stress among the members of the community that consisted of apparel industry workers in Sri Lanka. It further studied the impact and the possible interventions to mitigate the impact of workplace stress. The research used mixed methods as common among many PAR projects. The PAR team was formed from 25 volunteered apparel workers belonging to different factories and job categories. The team participated in all phases of the study. With the contribution from the PAR team, possible causes of stress and coping methods used were established. The findings led to the preparation of a questionnaire to solicit the input from a larger group to improve the reliability and validity of the findings. Total number of 155 answered questionnaires were used for statistical analysis.

The PAR project contributed to improve the local situation and added new knowledge to the existing understanding of the stress in the apparel industry. The study provided a voice to a suppressed community. It helped to build a critical and constructive dialogue among the employees of different job categories. As the participants were trained on research methods and

on stress, they would be in position to develop their own plans and implement to improve the situation resulting from stress. As a researcher I was benefited being able to play multiple roles such as researcher, coach and analyst.

The present research filled a gap in the literature where only a few researches had been done on stress among apparel factory workers in Sri Lanka. The earlier studies had used very few possible sources of stress and used quantitative methods to find factors causing stress. The only prior research focussed on stress by Fernando *et al.*(2010), used multiple regression analysis to establish the contribution of low salary, lack of supervisory support and culture for stress. The research did not include any tests for reliability or internal validity. It did not analyse any impact of individual differences or any other factors. The present research established financial issues, heavy workload and abusive supervision as the main factors causing stress having considered a large number of possible factors. It introduced abusive supervision and workplace incivility as a key factor causing stress among apparel factory workers. The research established compensatory behaviour and religion support as main coping methods used by the workers. Further the research used conducting workshops, educating management and discussions to take corrective measures to reduce abusive supervision and workplace incivility.

The research has produced actionable knowledge that can possibly be used by other apparel factories in Sri Lanka as the research has considered a sample spreading over multiple factories and due to the similarity of the context. Additional action may be used by other factories based on the availability of resources. E.g use of advanced technology to reduce workload and difficulty. The research used mixed methods. The approach allowed integration of the inferences from quantitative and qualitative findings as well as the experience of the participants and findings from the literature review. Consequently, the study will provide much richer and

comprehensive understanding of the issue for any future researcher. Future research may consider PAR as an appropriate methodology to conduct research related to stress as it allows stakeholders to get involved in interpreting the findings and taking required actions to improve the situation.

There are few suggestions for future research. The present study did not cover the areas of physical and mental health impact of stress experienced by the factory workers. In addition, the participants were reluctant to discuss some coping methods adopted, such as having close relationships with other employees. Future studies may use observation as a data collection method to capture additional information. As study was based on the frequency of the use of coping methods rather than their effectiveness, future research may consider alternative coping methods and specific coping methods to address specific stress factors.

Finally, conducting PAR projects is time consuming and costly. It needs commitment beyond conducting a research using traditional methods.

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Appendix 1 Questionnaire on Stress**Section 1 : Background Information**

1) Sex

Female ☐ Male ☐2) Age

3) Period of employment

Years Months

4) Marital status

Married ☐ Single ☐

5) Education

- | | |
|----------------------|--------------------------|
| 1. Primary education | <input type="checkbox"/> |
| 2. O/L | <input type="checkbox"/> |
| 3. A/L | <input type="checkbox"/> |
| 4. Graduate | <input type="checkbox"/> |
| 5. Post graduate | <input type="checkbox"/> |

6) No of employees in the factory

7) Job

- | | |
|--------------------------|--------------------------|
| 1. Machine operator | <input type="checkbox"/> |
| Cutter | <input type="checkbox"/> |
| 2. Other support work | <input type="checkbox"/> |
| 3. Supervisor | <input type="checkbox"/> |
| 4. Manager | <input type="checkbox"/> |
| 5. Other(Please mention) | <input type="text"/> |

8) Salary

Basic salary Other

9) No of hours working for a week

- | | |
|------------|--------------------------|
| 1. 1 - 15 | <input type="checkbox"/> |
| 2. 16 - 30 | <input type="checkbox"/> |

3. 31 – 41 ☐
4. 41 – 48 ☐
5. 49 – 60 ☐
6. 60 ☐

Section 2 : Sources of Pressure

Please circle the appropriate number based on the degree of pressure you perceive in your job.

- Strongly disagree is a source of pressure 1
- Disagree is a source of pressure 2
- Slightly disagree is a source of pressure 3
- Slightly agree is a source of pressure 4
- Agree is a source of pressure 5
- Strongly agree is a source of pressure 6

1.Excessive work overload.	1 2 3 4 5 6
2.Having to work very long hours.	1 2 3 4 5 6
3.Deadlines for orders and time pressure.	1 2 3 4 5 6
4.Repetitive tasks (eg. Repeating the same hand movement in sewing).	1 2 3 4 5 6
5.Shift work arrangements / Non standard shifts.	1 2 3 4 5 6
6.Inadequate number of staff.	1 2 3 4 5 6
7.Little involvement in decision making.	1 2 3 4 5 6
8.Lack of authority over work.	1 2 3 4 5 6
9.Too many responsibilities for people, money and others.	1 2 3 4 5 6
10.Uncertain responsibilities.	1 2 3 4 5 6
11.Unfair treatment by manager or supervisor.	1 2 3 4 5 6
12.Lack of help and support from colleagues.	1 2 3 4 5 6
13.Poor relationships with subordinates.	1 2 3 4 5 6
14.Discrimination and favouritism by the supervisors or managers.	1 2 3 4 5 6
15.Feeling isolated.	1 2 3 4 5 6
16.A lack of encouragement from superiors.	1 2 3 4 5 6
17.Demands my work makes on my relationship with my partner / children.	1 2 3 4 5 6
18.Being undervalued.	1 2 3 4 5 6

19.Customer/client complains.	1	2	3	4	5	6
20.Inadequate feedback about my own performance.	1	2	3	4	5	6
21.Home family life adversely affecting work.	1	2	3	4	5	6
22.Home life with a partner who is also pursuing a career.	1	2	3	4	5	6
23.Absence of stability or dependability in home life.	1	2	3	4	5	6
24.Absence of emotional support from others outside work.	1	2	3	4	5	6
25.Demands that work makes on my private / social life.	1	2	3	4	5	6
26.Changes in the way you are asked to do your job.	1	2	3	4	5	6
27.Simply being 'visible' or 'available'.	1	2	3	4	5	6
28.Lack of practical support from others outside work.	1	2	3	4	5	6
29.Factors not under your direct control.	1	2	3	4	5	6
30.Physical conditions (noise, lighting, temperature).	1	2	3	4	5	6
31.Workplace incivility.	1	2	3	4	5	6
32.Supervisor abuse.	1	2	3	4	5	6
33.An absence of any potential career advancement.	1	2	3	4	5	6
34.Morale and organisational climate.	1	2	3	4	5	6
35.Low salary compared to the work done.	1	2	3	4	5	6
36.Negative implications of the mistakes you make.	1	2	3	4	5	6
37.Lack of the opportunities for personal development.	1	2	3	4	5	6
38.Lack of Job security.	1	2	3	4	5	6
39.Having to pursue a career at the expense of home life.	1	2	3	4	5	6
40.Characteristics of the organisation's structure and design.	1	2	3	4	5	6
41.Keeping up with the change of technology.	1	2	3	4	5	6
42.My partners attitude towards my job.	1	2	3	4	5	6
43.Financial difficulties..	1	2	3	4	5	6
44.Subject to personal harassment in the form of unkind words or behaviour.	1	2	3	4	5	6
45.Verbal aggression from supervisor	1	2	3	4	5	6
46.Physical aggression from supervisor.	1	2	3	4	5	6
47.Apart from the present job, I have no other employable skill..	1	2	3	4	5	6

Section 3 : How You Cope with Stress

Please circle the number based on how often you use a given way of coping.

Never used by me	1
Seldom used by me	2
On balance not used by me	3
On balance used by me	4
Extensively used by me	5
Very extensively used by me	6

1. Resort to hobbies and pastimes.	1	2	3	4	5	6
2. Try to deal with the situation objectively in an unemotional way.	1	2	3	4	5	6
3. Effective time management.	1	2	3	4	5	6
4. Talk to understanding friends.	1	2	3	4	5	6
5. Plan ahead.	1	2	3	4	5	6
6. Expand interests and activities outside work.	1	2	3	4	5	6
7. Use selective attention (concentrating on specific problems).	1	2	3	4	5	6
8. Set priorities and deal with problems accordingly.	1	2	3	4	5	6
9. Try to 'stand aside' and think through the situation.	1	2	3	4	5	6
10. Seek as much social support as possible.	1	2	3	4	5	6
11. Don't let things get to me.	1	2	3	4	5	6
12. Keep calm under pressure.	1	2	3	4	5	6
13. Keep home and work separate.	1	2	3	4	5	6
14. Find time to relax.	1	2	3	4	5	6
15. Enjoy life outside of work.	1	2	3	4	5	6
16. Try to reduce my workload.	1	2	3	4	5	6
17. Share my concerns with other people.	1	2	3	4	5	6
18. Involve in religious practices.	1	2	3	4	5	6
19. Try to understand the situation through the religious concepts(eg. Karma) and accept the present situation.	1	2	3	4	5	6
20. Accept the situation and learn to live with it.	1	2	3	4	5	6

21. Have stable relationships.	1 2 3 4 5 6
22. Stay busy.	1 2 3 4 5 6
23. Look for the ways to make the work more interesting.	1 2 3 4 5 6
24. Seek support and advice from my superiors.	1 2 3 4 5 6
25. Look for alternative job.	1 2 3 4 5 6

Section 4 : Job Satisfaction

Please circle the number that you believe best describes the feeling towards the job.

Very much dissatisfaction 1

Much dissatisfaction 2

Some dissatisfaction 3

Some satisfaction 4

Much satisfaction 5

Very much satisfaction 6

1. Communication and the way information flows around your organisation.	1 2 3 4 5 6
2. The actual job itself.	1 2 3 4 5 6
3. The degree to which you feel 'motivated' by your job.	1 2 3 4 5 6
4. The style of supervision that your superiors use.	1 2 3 4 5 6
5. The way changes and innovations are implemented.	1 2 3 4 5 6
6. The kind of work or tasks your are required to perform.	1 2 3 4 5 6
7. The degree to which you feel that you can personally develop or grow in your job.	1 2 3 4 5 6
8. The way in which conflicts are resolved in your organisation.	1 2 3 4 5 6
9. The degree to which your job taps the range of skills which you feel you possess.	1 2 3 4 5 6
10. The psychological 'feel' or climate that dominates your organisation.	1 2 3 4 5 6
11. The design or shape of your organisation's structure.	1 2 3 4 5 6
12. The degree to which you feel extended in your job.	1 2 3 4 5 6

Section 5 : Your Behavior Pattern

Please circle the number that you feel best fits your own behavior.

Casual about appointments	1 2 3 4 5 6 7 8 9 10 11	Never late
Not competitive	1 2 3 4 5 6 7 8 9 10 11	Very competitive
Good listener	1 2 3 4 5 6 7 8 9 10 11	Anticipates what others are going to say (nods, attempts to finishes for them)
Never feels rushed (even under pressure)	1 2 3 4 5 6 7 8 9 10 11	Always rushed
Can wait patiently	1 2 3 4 5 6 7 8 9 10 11	Impatient while waiting
Casual	1 2 3 4 5 6 7 8 9 10 11	Eager to get things done
Takes things one at a time	1 2 3 4 5 6 7 8 9 10 11	Tries to do too many things at once.
Slow deliberate talker.	1 2 3 4 5 6 7 8 9 10 11	Emphatic in speech. Fast and forceful.
Cares about satisfying self no matter what others may think	1 2 3 4 5 6 7 8 9 10 11	Wants good job recognized by others
Slow doing things	1 2 3 4 5 6 7 8 9 10 11	Fast (eating, walking, etc.)
Easy going	1 2 3 4 5 6 7 8 9 10 11	Hard driving
Expresses feelings	1 2 3 4 5 6 7 8 9 10 11	Hide feelings
Many outside interests	1 2 3 4 5 6 7 8 9 10 11	Few interests outside work/home
Unambitious	1 2 3 4 5 6 7 8 9 10 11	Ambitious

Section 6 : Interest on a new job

I have been keen on a new job for last few months.

- 1) Strongly disagree
- 2) Somewhat disagree
- 3) Neither agree nor disagree
- 4) Somewhat agree
- 5) Strongly agree

I am actively searching for a new job.

- 1) Strongly disagree
- 2) Somewhat disagree
- 3) Neither agree nor disagree
- 4) Somewhat agree
- 5) Strongly agree

I intend to leave this job in near future.

- 1) Strongly disagree
- 2) Somewhat disagree
- 3) Neither agree nor disagree
- 4) Somewhat agree
- 5) Strongly agree